Chapter 2

Partnership Activities

2.1 Introduction

This chapter describes Partnership activities (or regional activities) that will be conducted collectively by all the permittees in the Sacramento Stormwater Quality Partnership (Partnership). Permittee-specific activities (or individual activities) for the 2008-2013 permit term are described in Chapters 3 through 9.

Tasks will continue to be implemented regionally throughout the Partnership jurisdictions when doing so provides the permittees with an opportunity for efficient use of limited funds and a consistent approach to managing urban runoff quality in Sacramento County. Most regional activities will be conducted under the leadership of either the County or City of Sacramento, the two largest permittees.

The following major categories of activities will be implemented regionally, as described in this chapter:

- Program Management (Section 2.2)
- Program Effectiveness (Section 2.3)
- Monitoring Program (Section 2.4)
- Target Pollutant Program (Section 2.5)
- Regional Public Outreach Program (Section 2.6)
- Regional Commercial/Industrial Program (Section 2.7)

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2.2 Program Management

As described in Chapter 1, the Partnership was established to coordinate Stormwater Permit compliance activities throughout the permittees' jurisdictional areas with the objective of improving water quality in receiving waters identified in the Permit including urban creeks, the Sacramento River and the American River. The permittees entered into a memorandum of understanding (MOU; described later in this section) that formalizes the manner in which the permittees address common issues, promote consistency among each permittees' stormwater programs, coordinate resources in regional activities, and plan and coordinate activities required to comply with the Stormwater Permit. A Steering Committee, consisting of representatives designated by each permittee, was established to provide a forum for making decisions and providing guidance to the permittees relative to the implementation of regional activities. The responsibilities and activities of the Steering Committee for the 2008-2013 permit term will include, but are not limited to, the following:

- Oversight and leadership
- Assignment of roles and cost-sharing
- Coordination of compliance reporting and regulatory liaison communication

Table 2.2-1, Regional Program Management Activities Work Plan describes tasks and schedules of activities for the 2008-2013 permit term.

2.2.1 Oversight and Leadership

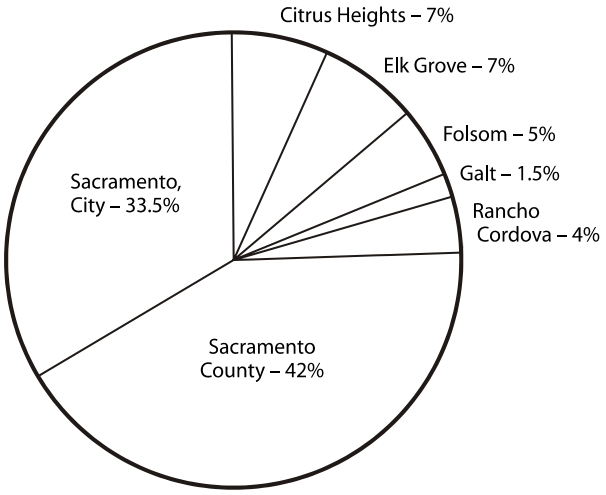
The Steering Committee will oversee Partnership permit compliance activities and provide leadership for implementation of the regional activities. The permittees will coordinate and make decisions primarily through regular meetings of this committee, although they also plan to coordinate via electronic mail and telephone. Decisions will be made by consensus or by majority vote when no strong objections are voiced. When consensus is not reached, no regional action will be taken and each permittee may then pursue individual action, if desired.

2.2.2 Assignment of Roles and Cost-Sharing

The MOU describes the roles and responsibilities and cost-share arrangements for managing and implementing regional activities. The Permittees currently operate under a MOU that was approved in 2003 and is included in Appendix 2A. This MOU was evaluated and was found to be consistent with the requirements listed in provision 3.e.i of the Stormwater Permit. The MOU will be revised to update the cost share percentages and the joint activities list, and the executed MOU will be submitted to Regional Water Board in the Annual Report following this revision.

The MOU cost-share percentage (based on population) for each permittee is shown on Figure 2.2–1. This cost-share arrangement applies to regional activities only. Additional permittee-specific activities are conducted over and above the regional ones and are described in the permittees' SQIPs (Chapters 3 through 9).

Figure 2.2-1
Permittee Share of Regional Activity Costs



Refer to the individual permittee SQIPs (Chapters 3 through 9) for information about each Permittee's funding sources.

The Steering Committee will identify the scope of work and resource needs for regional activities and will explore cost-saving ideas and grant opportunities. The committee will continue to assign a lead agency (usually the County or City of Sacramento) to administer and manage consultant contracts for the work. Through the committee, the permittees will execute joint authorizations for specific activities to describe the work or services, budget and cost apportionment. A sample joint authorization form is included as an exhibit attached to the MOU in the appendix. The committee is responsible for executing and updating any agreements required to ensure continued interagency coordination for overall stormwater permit compliance.

2.2.3 Coordination of Regulatory Liaison Communication and Compliance Reporting

The Steering Committee will be the forum for coordination of regulatory liaison communication and permit compliance reporting. In most cases, either the County or the City of Sacramento will take the lead in these efforts on behalf of the Partnership.

Regulatory Liaison

The County or the City of Sacramento will take the lead in providing liaison with the Regional Water Board and other regulatory agencies (e.g., EPA Region 9) on behalf of the Partnership. However, individual agencies may also contact the Regional Water Board at any time.

Regulatory Compliance Reporting

The following work plan is being submitted as a part of this SQIP as required by the Stormwater Permit:

Hydromodification Management Plan (HMP)

The Stormwater Permit requires that the permittees develop a plan to mitigate hydromodification impacts associated with new development where the runoff could cause erosion or other harm. This will result in new requirements for some development and redevelopment projects. To comply with the permit requirements, the permittees are submitting a work plan for the HMP as part of this document describing the proposed activities that will be taken to develop the HMP (please refer to Appendix 2B for the proposed HMP Work Plan). One year after the Regional Water Board approves the HMP work plan, the permittees will submit the HMP.

The Permittees will prepare and submit the following reports to the Regional Water Board during the 2008-2013 permit term, as required by the Stormwater Permit:

Annual Work Plan – May 1

The work plan will be submitted by May 1st each year to describe proposed activities for the coming fiscal year (July 1- June 30). It will also include the performance standards and targets to be used to assess and report progress and accomplishment. The Steering Committee will assign a lead agency to coordinate preparation and submittal of the work plans describing regional activities such as the monitoring and target pollutant programs. Each permittee will submit its own separate work plan to describe its individual activities.

Annual Report – October 1

An annual report will be submitted by October 1 each year to describe accomplishments for the preceding fiscal year (July 1 – June 30). The report will document the status of the SQIP and the activities completed by the permittees during the previous year, including a compilation of deliverables and milestones completed. The annual report will also include the results of the effectiveness assessments (described in Section 2.3) and recommended modifications or improvements to the SQIP based on those results. Each annual report will build upon the previous years' efforts.

A single annual report will be prepared and submitted each year to describe regional activities such as the monitoring and target pollutant programs. As with the work plan, each permittee will submit its own annual report to describe its individual activities and accomplishments, using a standardized reporting form for consistency.

Long Term Effectiveness Assessment – March 15, 2013

A Long Term Effectiveness Assessment (LTEA) will be submitted by March 15, 2013 (180 days before permit expiration). The LTEA, described in more detail in Section 2.3, will summarize the effectiveness of the overall Partnership Program in raising awareness, reducing pollutant discharges and improving environmental conditions. The LTEA will build on the results of the annual reports.

Report of Waste Discharge (ROWD) – March 15, 2013

A Report of Waste Discharge (ROWD) will be filed on March 15, 2013 (180 days before permit expiration) in accordance with Title 23 of the California Code of Regulations. The ROWD will serve as an application for reissuance of waste discharge requirements and renewal of the NPDES Stormwater Permit. It will identify any proposed changes or improvements to the SQIP, an assessment of the effectiveness of the Partnership Program (LTEA) and the proposed monitoring activities for the upcoming five year term of the permit.

Table 2.2-1

Regional Program Management Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key Indicator?	Performance Standard / Target	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other
Revise SQIP based on adopted Stormwater Permit	D.2					♦						April 30, 2009 (6 months after Permit effective date)
Finalize SQIP based on the Regional Water Board comments	D.3.c						♦					Sept. 22, 2009
Review and revise existing Permittee MOU	D.3.e					⇔	⇔♦					
Conduct Steering Committee Meetings	D.3.e					⇔	⇔	⇔	⇔	⇔	⇔	
Submit Permittees' Partnership (Regional) Activities Work Plan including the Monitoring Plan	D.3.a, MRP I.A					♦	♦	♦	♦	♦	♦	May 1st
Submit Permittees' Partnership (Regional) Annual Report	D.3.b, D.29.a, MRP I.B					♦	♦	♦	♦	♦	♦	October 1st
Assess effectiveness of Partnership Program and report in the Partnership (Regional) Annual Report	D.2.b, D.3.b					⇔♦	⇔♦	⇔♦	⇔♦	⇔♦	⇔♦	October 1st
Review and update standardized formats for all reports	D.3.e.ii					⇔	⇔	⇔				
Prepare and submit a Permittee Long Term Effectiveness Assessment (LTEA)	D.29.d									⇔♦		March 15, 2013 (180 days before Permit expiration)
File a Report of Waste Discharge (ROWD)	D.33									⇔♦		March 15, 2013 (180 days before Permit expiration)

Notes:

1. Performance standards achieve effectiveness outcome level 1 unless otherwise indicated

2. Assessing effectiveness of performance standards may be limited pending availability of baseline data

⇔ Ongoing activity/task ♦ Deliverable or key milestone ② Effectiveness assessment activity (expected outcome level indicated)

2.3 Program Effectiveness

2.3.1 Introduction

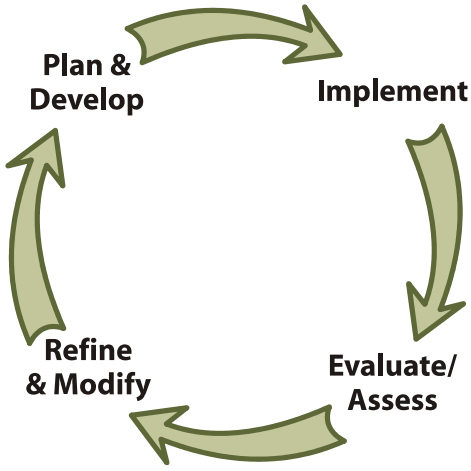
The Sacramento Stormwater Quality Partnership (Partnership) will assess program effectiveness as required by the Stormwater Permit (Provision 29) in order to:

- Demonstrate compliance with the Stormwater Permit in reducing pollutants in stormwater discharges to the maximum extent practicable (MEP) and ensuring that these discharges do not cause or contribute to violations of water quality standards established for local rivers and creeks
- Track the long-term progress of the SQIP toward achieving improvements in receiving water quality
- Provide data and feedback to improve the SQIP and identify new activities or modify existing activities in order to continuously improve upon meeting the above MEP and water quality standard goals

The effectiveness assessment will be conducted annually as required by the Stormwater Permit. Annual reports will include assessments of the overall program, Partnership (regional) activities, and permittee-specific activities. In addition, as required by the Stormwater Permit, a long-term effectiveness assessment (LTEA) will be conducted and included with the Report of Waste Discharge/NPDES stormwater permit renewal application due to the Regional Water Board in March 2013. This approach is described in more detail in Section 2.3.3.

The Partnership will use the annual assessments and LTEA as part of the iterative process to continually improve its program, whereby actions are planned, implemented, assessed and refined in repeated cycles as illustrated in Figure 2.3-1 until a certain accomplishment or goal is achieved. This process of continuous improvement also ensures the most effective use of public funds in developing improvements to the program.

Figure 2.3-1
Stormwater Program Iterative Process



2.3.2 CASQA Effectiveness Guidance

The Partnership's effectiveness assessment approach was developed using guidance provided in the CASQA *Municipal Stormwater Program Effectiveness Assessment Guidance* manual (CASQA guidance manual) (CASQA, 2007). The manual was created by a committee of experienced stormwater professionals and provides statewide guidance and recommended tools for assessing the effectiveness of stormwater programs, program elements and activities. This section summarizes some of the key concepts and terms presented in the manual that were adapted for use in the Partnership's approach.

Outcome Levels

A program, program element or activity is considered effective if it is producing a desired outcome. The CASQA guidance manual proposes six outcome levels, as shown in Figure 2.3-2. Each outcome level category has value in informing management decisions; however not all outcome levels area used in every assessment and are not necessarily assessed in sequence. The goal of the program, element, activity or BMP being evaluated is identified before determining the corresponding outcome level anticipated and subsequently assessed. Performance standards are described in the following section.

For example, most management/administration-type activities (e.g., producing a report, conducting a meeting, revising an ordinance) will be assessed as an outcome of level 1. Training and outreach activities will be assessed as a level 2 or 3 outcome (changing awareness or behavior of the target audience). The data collected by the monitoring program will be utilized in assessing outcome level 4 (reducing loads), and levels 5 and 6 (improving/protecting discharge and receiving water quality). Table 2.3-1 provides additional information about each outcome level.

Linking a program or activity to a positive environmental outcome (i.e., levels 5 or 6) can be elusive because water quality changes in response to program or activity implementation are likely to be very slow. Also, establishing a link between receiving water condition and program activities is difficult at the watershed scale when activities are being implemented incrementally.

Figure 2.3-2
General Classification of Outcome Levels *(adapted from CASQA, 2007)*

Table 2.3-1
Summary of Outcome Levels (adapted from CASQA, 2007)

Outcome Level	Description	Goal	Performance Standard
1	Documenting Activities	Program development and implementation and basic compliance with the NPDES stormwater permit.	• Number of training events • Number of media impressions • Ordinance revised • Brochure created or translated • Number of brochures distributed
2	Raising Awareness	Raise a target audience's awareness and understanding of an issue.	• Percentage of residents who know that stormwater runoff is not treated • Percentage of inspectors who understood concepts presented in a training workshop
3	Changing Behavior	Change a target audience's behavior which results in the implementation of actions related to stormwater pollution prevention.	• Percentage of construction sites with erosion and sediment controls in place following a verbal warning • Percentage of businesses with BMPs in place as observed in a follow-up inspection • Adoption of new agency policies and standards re: WQ protection
4	Reducing Loads from Sources	Reduce the load of pollutants from sources into the municipal storm drain system. Can be real (measured) or estimated.	• Amount of material (sediment) removed from streets by street sweepers • Quantity of used oil collected at the regional transfer facilities • Estimates of sediment kept on site due to use of erosion controls
5	Improving Runoff Quality	Improve the quality of stormwater/urban runoff discharges from the municipal storm drain system to the receiving water.	• Decrease in pollutant levels measured at a particular urban runoff outfall
6	Protecting Receiving Water Quality	Protect receiving water from adverse impacts caused by discharges from the municipal storm drain system.	• Decrease in pollutant levels (typically associated with urban runoff) in rivers/creeks • Healthy creek biota

Performance Standards

A performance standard quantifies the progress of program implementation or performance of an activity or BMP (CASQA 2007). This is consistent with the stormwater permit, which defines a performance standard as "a narrative or measurable number specifying the minimum acceptable outcome for a pollution control practice." A performance standard can also establish a baseline against which future progress in either directly or indirectly reducing pollutants can be measured (CASQA 2007).

Effectiveness assessments beyond outcome level 1 require the establishment of baseline conditions. Thereafter, effectiveness can be determined by comparisons of successive years (or other defined periods) of results against the baseline data. This will not be possible for the first few years of a new program or activity, whereby there is no data (or insufficient data) to establish the baseline condition.

Assessment Methods

The CASQA guidance manual identifies six methods (see Table 2.3-2) for obtaining or evaluating assessment information. Reasons indicated in the manual for selecting a particular method include cost, ease of use, need for statistical rigor, applicability for a program vs. activity/BMP assessment, and clarity in communicating progress to the general public. The Partnership's effectiveness assessment approach described in Section 2.3.3 generally employs these methods; however, a permittee may choose to use other methods not shown on this table in assessing its individual activities.

Table 2.3-2
Assessment Methods Suitable for Various Outcome Levels (adapted from CASQA, 2007)

Assessment Method	Description	1 – Documenting Activities	2 – Raising Awareness	3 – Changing Behavior	4 – Reducing Loads	5 – Improving Discharge Quality	6 – Protecting Receiving Waters
Confirmation	Document that an activity has been completed.	•					
Tabulation	Track the number of actions or items associated with an activity.	•	•	•			
Surveys	Gain specific information about a group or representative sample of the group.		•	•			
Inspections/ Observations	Determine if desired actions are being taken/outcomes are being achieved.	•	•	•	•		
Quantification	Track quantities or estimate pollutant loadings.				•	•	•
Monitoring	Collect representative environmental samples and analyze to measure changes.				•	•	•

Key Indicators

The key indicators were developed by the permittees for evaluation of Partnership Program effectiveness and are a further refinement of the methods provided in the CASQA guidance manual. The indicators are the metrics or representative activities used to define and assess the effectiveness of a program, program element or activity in producing outcomes. The key indicators are selected based on their ability to (1) show progress toward meeting the program or element goal and (2) are specific, measurable and achievable. Some key indicators may be common partnership-wide activities and others will be permittee-specific activities. The key indicators are included in the work plan tables at the end of each element in chapters 3 through 9.

2.3.3 Effectiveness Assessment Approach

The Partnership will conduct and report on effectiveness assessments during the 2008-2013 stormwater permit term as described in this section. Assessments of permittee-specific and Partnership (regional) activities will be conducted annually and a long-term effectiveness assessment for the whole program will be conducted for the Report of Waste Discharge submittal in March 2013.

Annual Permittee-Specific Program Effectiveness Assessment

Each permittee will conduct an effectiveness assessment of its permittee-specific program, for submittal with its annual report each year. The permittee-specific assessments will describe progress towards producing outcomes categorized by levels 1 through 4 and will include recommendations for modifying or adding activities and improving the programs .

Each permittee-specific SQIP in this document identifies a few key indicators for each program element that will be used in the assessment for the element. As described previously, the key indicators are the measurable and achievable metrics for representative activities that will be used to evaluate the effectiveness of a particular program element in producing outcomes and demonstrate progress towards meeting the program element goals. Because they are tailored to an individual permittee's goals and situation, key indicators may differ between the agencies.

These individual indicator results will also be utilized by the Partnership in conducting annual assessments of the overall Partnership Program, as described in the next section.

Annual Partnership Program Effectiveness Assessment

An annual assessment of Partnership Program effectiveness will be completed that includes documentation of Stormwater Permit compliance as described by outcome levels 1 through 3, reduction of pollutants from sources and in discharges (where possible) as described by outcome levels 4 and 5, and protection of receiving water quality (where possible) as described by outcome level 6. The assessment will be submitted each year with the annual report, will build upon the results of the preceding years, and will include:

- A discussion of the effectiveness of the Partnership Program and SQIP in reducing stormwater pollution from discharges to the MEP and in achieving compliance with water quality standards in receiving waters
- An assessment of whether Partnership Program discharges caused or contributed to an exceedance of water quality standards
- A discussion of water quality improvements in or degradation of, urban runoff
- A discussion of monitoring data analysis (the monitoring program is described in Section 2.4)
- An assessment of the Target Pollutant Program. (described in Section 2.5)
- A discussion of the effectiveness of individual BMPs (e.g., a water quality detention basin or a new development BMP) in reducing urban runoff pollutants and/or runoff flow/volume. (These special studies are described in Section 2.4)
- An effectiveness assessment for each permittee-specific program element and Partnership (regional) Program element as defined in the SQIP, building upon each consecutive year
- Recommendations to improve the SQIP, including the monitoring program, activities/BMPs, and performance standards to address potential receiving water quality exceedances and potential pollutant sources, and to meet the MEP standard

Additionally, the Partnership will take selected key indicator results for the various program elements (representing both regional and permittee-specific activities), summarize the results, and use the information to assess the effectiveness of the overall Partnership Program in producing outcomes categorized by levels 1 through 4.

Data and other information from the Monitoring (Section 2.4) and Target Pollutant (Section 2.5) Programs will be used to assess the effectiveness of the Partnership Program in producing outcomes categorized by levels 4 through 6. Monitoring and target pollutant data analysis will include load removal calculations based on a watershed inventory, BMP effectiveness assessments and where possible, trend analysis. These annual snapshots will provide the building blocks for the future analyses as well as guidance for the direction of future Partnership Program activities.

Long Term Effectiveness Assessment (LTEA)

The stormwater permit requires the Partnership to develop a LTEA of the Partnership Program as part of the Report of Waste Discharge due to the Regional Water Board 180 days prior to the expiration of the Stormwater Permit, in March 2013. This LTEA will build on the results of the annual effectiveness assessments as presented in the preceding years' annual reports. As stated in the Stormwater Permit, the LTEA "shall identify the stormwater program long term effectiveness in achieving both programmatic goals (raising awareness, changing behavior) and environmental goals (reducing pollutant discharges, improving environmental conditions)" over the permit term.

The LTEA will include documentation of the Partnership Program effectiveness over the permit term in complying with the permit as described by outcome levels 1 through 3, reducing pollutant discharges as described by outcome levels 4 through 5, and protection of receiving water quality as described by outcome level 6.

The LTEA will use data and information from the annual assessments described previously to answer the following management questions (discussed further in Section 2.4):

- What is the existing condition of receiving water quality and is it protective of beneficial uses?
- What is the trend of urban discharge quality?
- What is the relative urban runoff contribution to receiving water quality?
- Are conditions in receiving waters getting better or worse?

The results of the LTEA will help determine recommended stormwater program activities for the updated SQIP that is required for submittal with the Report of Waste Discharge.

2.3.4 Future Updates to the Effectiveness Assessment Approach

Assessing program effectiveness is recognized as a key challenge for stormwater program managers across California. As various tools are applied and tested over the next few years, it is expected that effectiveness assessment approaches and tools will continue to evolve, and in turn, CASQA will likely publish updated statewide guidance. The Partnership will continue to support this effort and will consider CASQA's recommendations in refining its own approach during the 2008-2013 stormwater permit term. Any modifications to the Partnership's approach will also be based on the permittees' local experience, testing methods on the various program elements/activities and Regional Water Board feedback. Modifications will be reported in the annual work plans and annual reports submitted to the Regional Water Board.

2.4 Monitoring Program

2.4.1 Introduction

The Sacramento Stormwater Quality Partnership (Partnership) Monitoring Program (Monitoring Program) was initiated to comply with the requirements of the National Pollutant Discharge Elimination System (NPDES) area-wide municipal separate storm sewer system permit (Stormwater Permit) Monitoring and Reporting Program (MRP) and to demonstrate the effectiveness of the overall Partnership Program. Specifically, the Partnership uses monitoring data to achieve the following objectives:

- Assess water quality in urban runoff and receiving waters (rivers and creeks) and identify potential problems
- Identify pollutants and help identify key pollutant sources
- Investigate observed and reported problems in local waterways and help identify sources of the problems
- Evaluate the effectiveness of selected Best Management Practices (BMPs) and control measures
- Assess the effectiveness of the overall Partnership Program by tracking water quality changes and evaluating trends over time
- Adjust future monitoring efforts to provide the most useful data in the most cost-effective manner

This section of the SQIP describes the monitoring activities to be completed to meet permit requirements and achieve Monitoring Program objectives planned for 2008 through 2013. All monitoring activities described in this SQIP comply with the provisions of the NPDES Permit including Provision IV Standard Monitoring Provisions (see Appendix 1A). Monitoring activity descriptions also reference other regulatory documents such as Sampling and Analysis Plans or Data Quality Evaluation Plans which may contain more specific descriptions for these activities.

2.4.2 Strategy

The Partnership designed the Monitoring Program to answer the management questions listed in Table 2.4-1 and to assess Partnership Program effectiveness in producing outcomes categorized by levels 4 through 6, refer to section 2.3 for a discussion of outcome levels. The Partnership collects water quality, sediment quality, aquatic toxicity and other types of environmental data as described in Table 2.4-2 for use in answering the management questions and assessing program effectiveness in producing the anticipated outcomes. The Partnership quantifies outcome levels 4 through 6 with loads discharged, loads averted, changes in urban runoff and changes in receiving water quality. Additionally, the Partnership analyzes the collected data to help guide selection of program and permittee-specific activities including for the Target Pollutant Program (see Section 2.5).

Table 2.4-1
Monitoring Program Management Questions and Outcome Levels

Management Questions	Outcome Level
A - What is the existing condition of receiving water quality and is it protective of beneficial uses?	6 – Protecting Receiving Water Quality
B - What is the quality of urban discharge in new developed areas?	5 – Improving Discharge Quality
C - What is the trend of urban discharge quality?	5 – Improving Discharge Quality
D - What is the relative urban runoff contribution to receiving water quality?	5 – Improving Discharge Quality
E - What are the sources to urban runoff that affect receiving water quality?	4 – Reducing Loads From Sources
F - Are conditions in receiving waters getting better or worse?	6 – Protecting Receiving Water Quality
G - How can changes in urban water quality affect receiving water quality?	6 – Protecting Receiving Water Quality

Table 2.4-2
Monitoring Program 2008-2013 Activities and Strategy

Monitoring Activity	Description of Assessment	Outcome Levels	Management Questions Addressed
River Monitoring	• Upstream - downstream comparisons • Trend analysis • Water quality objective comparisons	1 & 6	A, F
Urban Tributary Monitoring	• Trend analysis • Water quality objective comparisons • Comparisons of watersheds	1 & 6	A, F
Urban Runoff Monitoring	• Load modeling • Trend analysis using multi-variate analysis • Comparisons of land uses	1, 4 & 5	C, D, E, G
Water Column Toxicity	• Trend analysis	1 & 6	A, E, F, G
Sediment Monitoring	• Trend analysis	1 & 6	A, E, F, G
Bioassessment Monitoring	• Trend analysis	1 & 6	A, E, F, G
Wet Detention Basin	• Inlet and outlet comparisons • Mass balance	1, 4 & 5	B, C, D, E, F, G
Pilot Watershed	• Inlet and outlet comparisons • BMP load removal	1, 4	B, D, E, G

Historic Monitoring Program Activities

The Partnership initiated the Monitoring Program in 1990 with both urban runoff (discharge) monitoring and urban tributary (creek) monitoring. River monitoring of the Sacramento and American Rivers upstream and downstream of the urban area began in 1991 with the creation of the Coordinated Monitoring Program (CMP), a joint effort at that time between the City of Sacramento, County of Sacramento and Sacramento Regional County Sanitation District (SRCSD). The Partnership has modified the Monitoring Program to include river, urban tributary and urban runoff water quality characterization, as well as water column toxicity, bioassessment, and BMP performance evaluation studies. The results of these activities have been included in the Partnership's Annual Monitoring Reports (AMR) submitted with the Partnership annual reports. Table 2.4-3 summarizes Monitoring Program activities over the past 20 years (Appendix 1C also provides a summary history of the Monitoring Program).

Table 2.4-3
Historic Monitoring Activities

Monitoring Year	River Monitoring	Urban Tributary Monitoring	Urban Runoff Monitoring	Water Column Toxicity	Bioassessment	BMP Evaluation
1989/90	•					
1990/91	•		•	•		
1991/92	•		•	•		
1992/93	•	•	•	•		
1993/94	•		•	•		
1994/95	•	•	•	•		
1995/96	•	•	•	•		
1996/97	•	•	•	•		
1997/98	•		•			•
1998/99	•		•			•
1999/00	•		•			•
2000/01	•		•			•
2001/02	•					•
2002/03	•		•			
2003/04	•	•	•	•	•	
2004/05	•	•			•	
2005/06	•	•	•		•	
2006/07	•	•	•		•	
2007/08	•	•			•	•
2008/09	•	•	•			•

2.4.3 Monitoring Program 2008-2013 Activities

The Partnership will complete the monitoring activities included in Table A of the Stormwater Permit MRP included in Appendix 1A of this SQIP. These activities are described below and in Table 2.4-5, Regional Monitoring Program Activities Work Plan following this section of the SQIP. A map of planned monitoring locations is included as Figure 2.4-1. Additionally, the Partnership is required to complete data analysis in support of Regional Water Board efforts to develop Total Maximum Daily Load (TMDL) limits for pesticides and mercury in area receiving waters. The TMDL data analysis will include recommendations for additional monitoring if any is required to comply with the proposed TMDLs.

As stated in the Stormwater Permit, the Partnership monitoring requirements can be modified in this SQIP, pending approval from the Regional Water Board Executive Officer. The Partnership has provided additional study procedures that are specifically discussed in the Water Column Toxicity and Pilot Watershed-Special Study subsection.

All 2009/10 sampling and analysis plans are included in Appendix 2G. Generally, annual changes are only minor logistical updates (e.g., analytical laboratory selection, field crew phone numbers, etc.). Annually, as part of the sampling and analysis plan updates, an analytical laboratory assessment is performed to verify that the best quality data are collected to both meet the permit requirements and provide the lowest standard-of-practice reporting limits. More significant program changes (site locations, constituents, etc.) require Regional Board approval.

Baseline Monitoring

Baseline monitoring characterizes urban runoff and receiving water constituent concentrations and quantifies long-term trends for larger watershed areas. The Partnership conducts river monitoring, urban tributary monitoring, urban runoff monitoring and water column toxicity as part of baseline monitoring activities. The Partnership describes specific monitoring protocols in the annually prepared sampling and analysis plans for each of the monitoring activities. The Partnership submits these sampling and analysis plans to the Regional Water Board along with the annual report.

River Monitoring

The SRCSD and Partnership manage the CMP through the CMP Steering Committee. The Steering Committee designed the CMP to provide long-term ambient river water quality characterization data, satisfy NPDES permit monitoring requirements, and complete recommended special studies. The CMP collects water column samples for the constituents listed in Table 2.4-4 (described further in Table B of the Permit included in Appendix 1A) at four sites on the Sacramento and American Rivers for three wet weather events and one dry weather event every year. The CMP collects river cross section composite samples from a boat, except at the upstream American River (at Nimbus) location where a CMP collects a mid-depth grab sample by wading into the river. These characterization data are useful for threshold comparisons, assessing changes between upstream and downstream sites and long-term water quality trend evaluations.

Urban Tributary Monitoring

The Partnership collects urban tributary water column samples for the constituents listed in Table 2.4-4 (described further in Table B of the Permit included in Appendix 1A) at three locations (Arcade, Willow and Laguna creeks) for three wet weather events and one dry weather event every year. The Morrison Creek monitoring location sampled during the previous permit term was replaced with a site representative of newer development (Laguna Creek).

Urban Runoff Monitoring

The Partnership collects urban runoff (discharge) water column samples for the constituents listed in Table 2.4-4 (described further in Table B of the Permit included in Appendix 1A) at three locations (Sump 111, Strong Ranch Slough and Natomas Basin No. 4) for three wet weather events and one dry weather event each year, with no monitoring every third year. The Partnership replaced the historically monitored Sump 104 location in 2008 with a site representative of new development (Natomas Basin No. 4). The Partnership collects flow weighted composite samples for all storm events and 24 hour time composites for dry weather events. The Partnership targets the first flush event each active monitoring year.

A principal use of the urban runoff data is to evaluate the overall long-term effectiveness (LTE) of the Partnership Program. In 1995/96, the Partnership performed a power analysis to determine data requirements to assess LTE. This work concluded that at least 20 years of data would be needed to provide statistically valid conclusions about program effectiveness.[1] In 1997/98, the Partnership further evaluated the amount of data needed to assess LTE. As a result, the Partnership adopted a still-used strategy of monitoring urban runoff on a cycle of two years on and one year off.

Water Column Toxicity

The Partnership will perform chronic aquatic toxicity analyses at all receiving water locations in two wet weather events and one dry weather event in FY 2009/10 and 2011/12. The Partnership will collect samples as mid-depth grab samples or cross-sectional composite samples. In receiving waters that are accessible by boat a cross sectional composite is collected as the evenly weighted mixture of five mid-depth samples collected at points across the river transect. Water column chemistry samples are collected as depth-averaged composites at the five points across the transect. Because of the large sample volumes required and time constraints of wet weather monitoring, the mid-depth sample is preferred for the toxicity samples. At the American River at Nimbus and urban tributary locations, mid-depth to sub-surface grab samples are collected. Safety and depth considerations dictate the event-specific sample collection depth. These and other sampling event details such as collection bottle type, holding times, and the selected laboratory are included in the Urban Tributary Sampling and Analysis Plan and the River Coordination Sampling and Analysis Plan These sampling and analysis plans for the 2009/10 sampling season are included in Appendix 2G.

The toxicity testing species will be fathead minnow (*Pimephales promelas*) and water flea (*Ceriodaphnia dubia*). Monitoring in 2011/12 will include an algal growth test using *Selenastrum capricornutum* for the first flush event. An updated toxicity sampling and analysis plan will be submitted as part of the 2009/10 Annual Report to include algal growth test procedures for the 2011/12 toxicity monitoring program. The Partnership will contract a qualified laboratory to perform the analysis in accordance with U.S. EPA's method 821-R-02-013 (U.S. EPA 2002, 4th Edition). The Stormwater Permit allows a modification[2] for *Pimephales promelas* to remove previously observed toxicity caused by pathogen interference. If 100% mortality to *Pimephales promelas* or *Ceriodaphnia dubia* is detected within 24 hours of test initiation, then a dilution series shall be initiated (0.5x steps) ranging from the undiluted sample (or the highest concentration that can be tested within the limitations of the test methods or sample type) to less than or equal to 6.25 percent of the sample. Dilution water is a "Type 1" laboratory water that is treated with a reverse osmosis (RO) membrane and deionized (DI), and then amended with the EPA specified nutrients.

If mortality is significant compared to the laboratory control sample and is greater than or equal to 50% for the fathead minnow or the water flea, a toxicity identification evaluation (TIE) will be conducted. A Phase I TIE consists of various sample manipulations that alter organism response to causes of toxicity and will be performed according to EPA guidance for chronic[3] or acute[4] test periods based on the response in the initial toxicity test. A Phase I evaluation is intended to identify the general class of toxicant that can be further identified with water column chemistry or follow-up test manipulations. EPA initially developed these adaptive procedures for wastewater effluent, but they can be applied to ambient waters. Because of potential sample volume and time constraints, the process shown in Figure 2.4-2 includes evaluation steps whereby the toxicologist may add additional manipulations if they are indicated. Aeration and pH adjustment tests will be performed if indicated, if other manipulations do not provide conclusive results, and if there is sufficient sample volume available. TIEs will be performed until the toxicant is identified or the sample volume is consumed. Because of the episodic nature of wet weather events, it is not possible to re-sample once the volume is consumed. Control samples will be performed for each test manipulations using laboratory water prepared according to the test method. Treatment "add-backs" are also performed as indicated for by the SPE column and other test results.

Additional water column chemistry will be performed concurrent with toxicity sample testing to further characterize water column concentrations of pyrethroid pesticides, carbamate pesticides and organochlorine pesticides. The water column chemistry can assist in identifying causes of observed toxicity. If after the TIE process the cause of toxicity is inconclusive, the Partnership will perform an assessment of observed toxicant concentrations relative to known toxic concentrations and whether the toxic effects are additive or potentially synergistic. Additionally, the Partnership will identify potential modifications to the TIE process for future monitoring events.

The Partnership will conduct a Toxicity Reduction Evaluation (TRE) whenever the TIE process successfully identifies a toxicant and the toxicant is not already being addressed in Section 2.5, Target Pollutant Program. A maximum of two TREs per year are required. A TRE includes all reasonable steps to identify the source(s) of toxicity and discuss appropriate BMPs to eliminate them. Once the Partnership identifies the source of toxicity and appropriate BMPs, the Partnership will submit a TRE Corrective Action Plan as part of the annual report to the Regional Water Board Executive Officer for approval. If a toxicant is already in the Target Pollutant Program, the toxicity found shall be noted and addressed through on-going implementation of that pollutant control strategy.

Sediment and Bioassessment Monitoring

Sediment and bioassessment monitoring can characterize long-term trends for larger watershed areas. The Partnership describes specific monitoring protocols in the sampling and analysis plans and submits them annually to the Regional Water Board. As required by the Permit included in Appendix 1A, sediment monitoring protocols will conform to SWAMP Quality Assurance Management Plan protocols that can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa.

Sediment Monitoring

Sediment toxicity resulting from pyrethroid pesticides was recently identified in a study[5] performed through Surface Water Ambient Monitoring Program (SWAMP) monitoring in Sacramento area (Roseville, CA) urban tributaries. As a result, the Partnership is required by the Permit to conduct pyrethroid sediment sampling as part of the urban tributary monitoring and as part of any bioassessment sampling. These data can be used by the Partnership and by other Board and Department of Pesticide Regulation monitoring programs to characterize sediment conditions over time and for the wet and dry seasons.

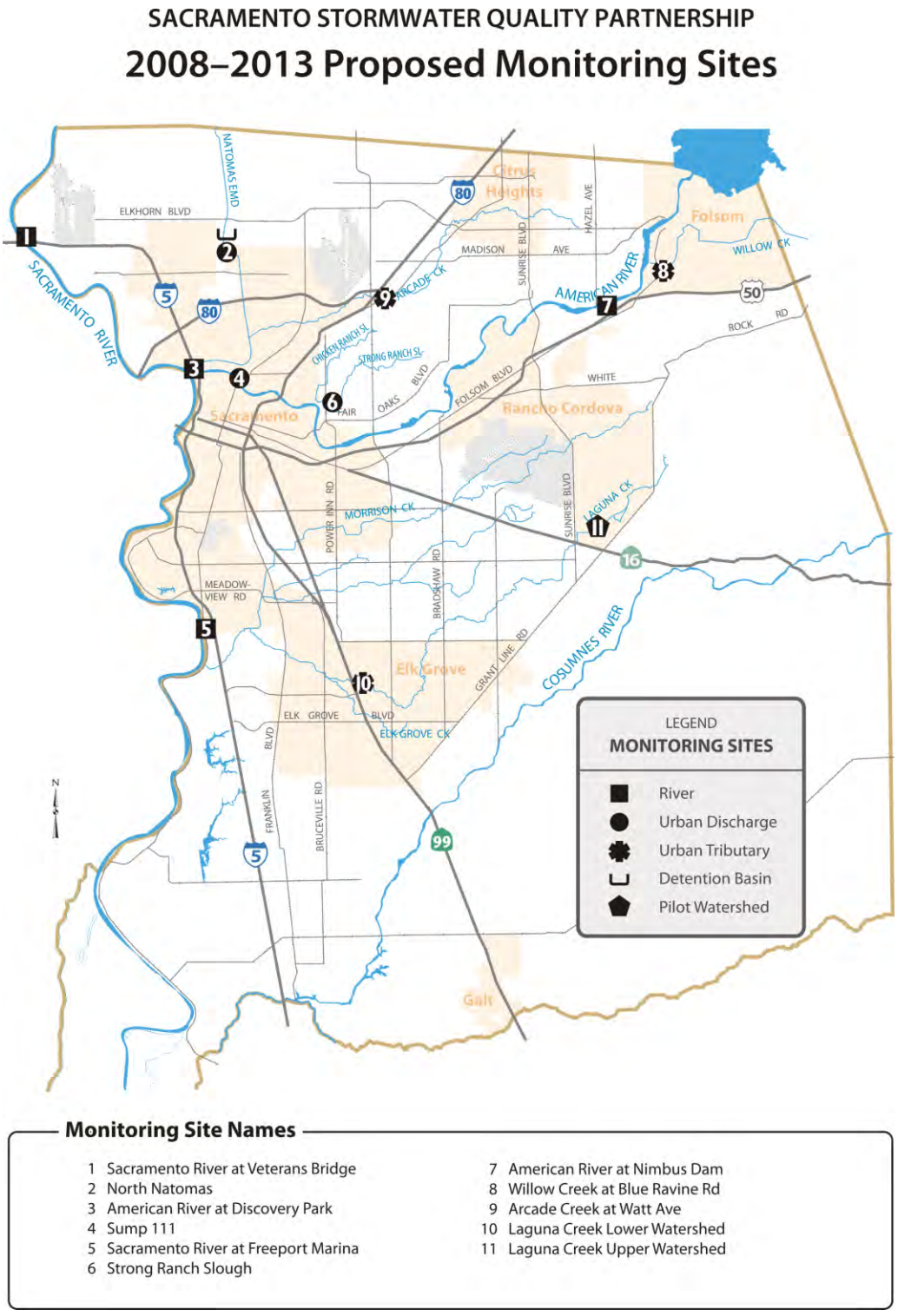
The Partnership will perform annual pyrethroid sediment sampling at the three urban tributary monitoring locations during one wet season (from October 1 through April 15) and one dry season event. The wet event will be performed within two weeks of a wet weather urban tributary event and no later than April. The Partnership will review and amend the Pesticide Plan component of the SQIP if pesticides in sediments are identified as causing or contributing to receiving water impacts.

Additional sediment chemistry is not required by the Permit and not necessary to inform other Partnership activities as the Target Pollutant Program has already analyzed the extensive available monitoring data, identified pollutants of concern and prioritized the urban pollutants that may be present in either the water column or deposited in the sediment.

Bioassessment

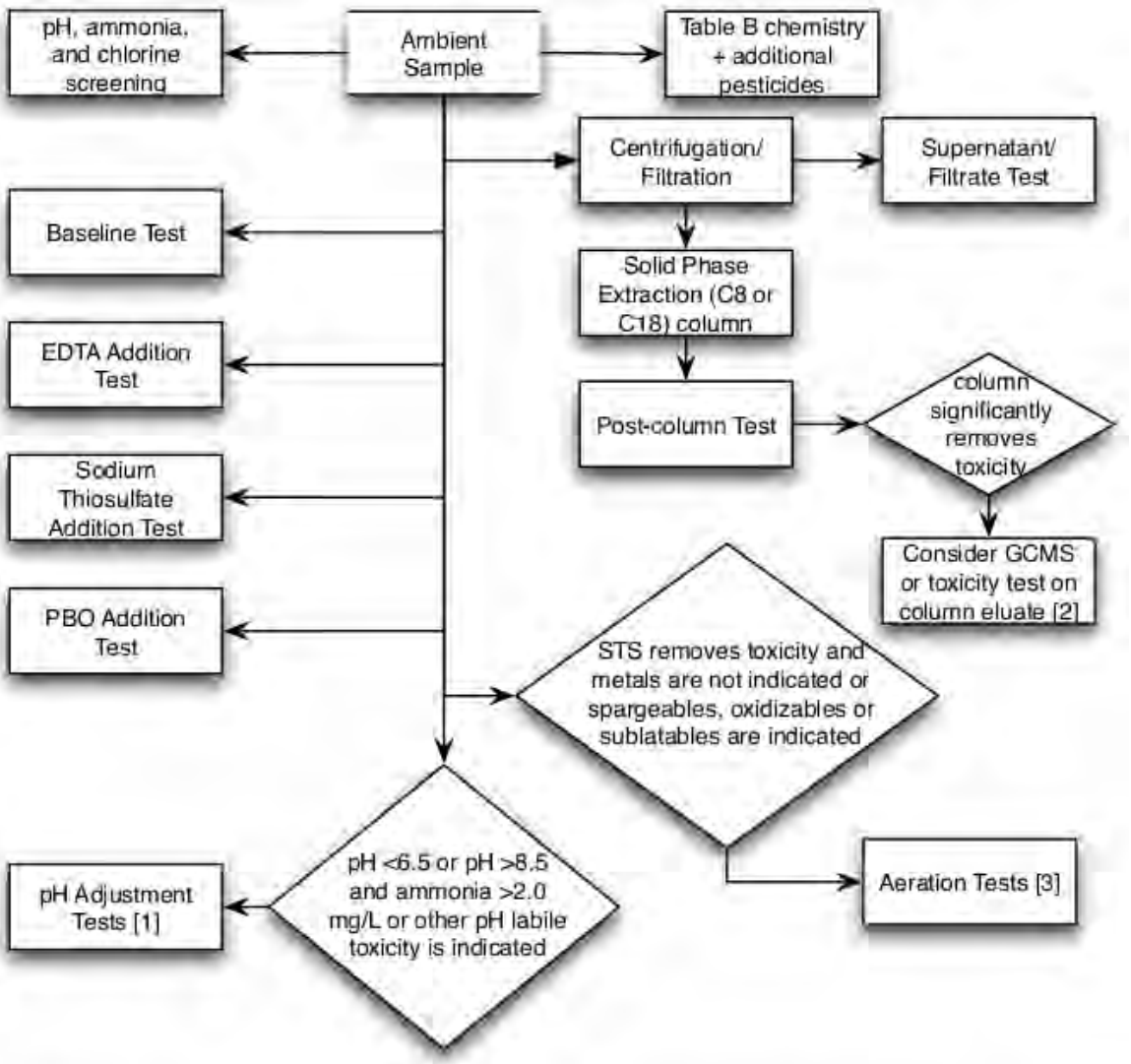
The Partnership does not anticipate bioassessment monitoring in the Stormwater Permit term, although the Partnership will submit an analysis of data collected to date as part of the 2008-09 AMR.

Figure 2.4-1
2008-2013-Term Monitoring Sites



Note: In addition to baseline monitoring, water column toxicity and sediment monitoring will occur at urban tributary and urban discharge (runoff) sites.

Figure 2.4-2
Toxicity Identification Evaluation Overview



Notes:
[1] pH adjustment will be performed after initial treatment tests if sufficient volume are available and pH adjustment is indicated based on initial treatment test results and available metals and ammonia chemistry data
[2] As part of a secondary evaluation GCMS or toxicity test may be performed on eluate from column if non-polar organics are indicated
[3] If spargeables are indicated based on sample observation and chemistry, oxidizables are indicated based on chemistry or mode of toxicity, or sublateables are indicated by historical chemistry or sample observation the aeration test will be performed

Table 2.4-4
Water Quality Monitoring Constituent List

Constituent Class	Constituent
Field/Lab Measurements	• Water Temperature • pH • Dissolved Oxygen • Turbidity • Electrical Conductivity (EC)
Bacteria	• Fecal coliform • E. coli (fresh waters)
General	• Total Petroleum Hydrocarbons • Total Suspended Solids (TSS)/Total Dissolved Solids (TDS) • Total Organic Carbon/ Dissolved Organic Carbon • Biochemical Oxygen Demand/Chemical Oxygen Demand • Total Kjeldahl Nitrogen • Alkalinity • Nitrate-Nitrite • Total Phosphorus • Total Hardness • Methylmercury
Metals	• Copper, Dissolved and Total • Iron, Total • Lead, Dissolved and Total • Mercury, Total • Zinc, Dissolved and Total
Organophosphate Pesticides	• Chlorpyrifos • Diazinon • Malathion
Semi- and Non-volatile Organics	• PAHs (refer to Table B of the Permit for specific PAHs)
Pyrethroid Pesticides in Sediment	• Bifenthrin • Cyfluthrin • Cypermethrin • Deltamethrin/Tralomethrin • Esfenvalerate/Fenvalerate • Fenpropathrin • Lambda-cyhalothrin • Permethrin

Note: Table 2.4-4 is a summary of Table B of the Permit included in Appendix 1A, which contains detailed technical requirement, such as required reporting limits. All sampling and analysis plans submitted by the Permittees will conform to the detailed technical requirements of the Permit.

Water Quality Based Programs

As listed in the Water Quality Based Programs section of the Stormwater Permit, the Partnership is required to complete data analysis in support of Regional Water Board efforts to develop TMDL limits for pesticides and mercury in area receiving waters. TMDLs are stakeholder-based regulatory programs intended to address receiving water impairments and typically require monitoring, data analysis and source reductions by stakeholders.

Pesticide Monitoring

The Partnership will conduct additional pesticide monitoring to comply with Basin Plan amendments or TMDLs as required during the Stormwater Permit term. Currently there is no additional pesticide monitoring activities required to comply with Basin Plan amendments or TMDLs.

Mercury Monitoring Analysis

The Partnership will evaluate urban runoff discharge loading from the Sacramento area that contributes to Clean Water Act section 303(d) listed mercury-impaired receiving waters. The Partnership will base the discharged load model on total mercury and methylmercury data collected in recent years. The Partnership will summarize this load modeling analysis in the 2008/2009 Annual Report due on October 1, 2009. The analysis will comply with the detailed technical provisions of the Permit included in sections D. 27. b. iii. and section G. 2. of the MRP included in Appendix 1A of this SQIP. A summary of what will be included in the submittal is as follows:

- A summary of all total mercury, methylmercury and TSS water column data collected to date
- Location map of all the sampling stations and contributing watersheds
- Documentation of sample collection, analytical methods and QA/QC procedure
- An evaluation of load modeling approaches to estimate total mercury and methylmercury load
- Estimates of the average annual methylmercury and total mercury urban runoff concentrations and loads
- Estimates of the amount of total mercury using readily available data of sediment prevented from discharging to receiving waters by existing BMPs such as street cleaning , detention basins and erosion and sediment controls
- An evaluation of whether the available concentration data represent a range of storm conditions (i.e. various intensity, duration and antecedent dry hours) and water years
- An evaluation of whether sampling locations sufficiently represent urban runoff throughout the Sacramento urban area
- An evaluation of representativeness of current sampling methods
- An evaluation of methods to estimate urban runoff flow volume
- Identification of data gaps and recommendations for additional data collection to characterize annual average total mercury and methylmercury load

- Recommendations for including total mercury and methylmercury monitoring in the design of future BMP studies

Special Studies

Special studies are targeted investigations that can provide additional information on BMP effectiveness or information regarding direct impacts on receiving waters. The Partnership performs these studies to evaluate specific source control or treatment control measures and they are not intended as long-term characterization studies. The Partnership submits these sampling and analysis plans for each special study that describes study objectives and specific monitoring protocols. The Special Studies completed during the permit term will include:

- A wet detention basin study to measure the effectiveness of new development standards in protecting receiving water quality and target pollutant removal effectiveness
- A pilot watershed study to measure the effectiveness of new development standards in protecting receiving water quality
- Proprietary treatment BMP effectiveness evaluations to measure the pollutant removal effectiveness of proprietary devices that are options for treatment measures in the development standards

Wet Detention Basin Monitoring

The Partnership will complete the wet detention basin effectiveness study initiated in 2007 intended to assess the pollutant removal performance of a typical new development facility. The Partnership is currently completing year two of the study and is expected to finish the study by July 2010. The study includes inlet and outlet monitoring at North Natomas Basin No. 4 for a minimum nine storm events and three dry weather events over the course of the study period. Water column monitoring includes total mercury, methylmercury, TSS, bacteria, turbidity, TDS, OP pesticides and pyrethroids. The Partnership will submit the monitoring results in the 2010/11 annual report along with recommendations for additional grab sampling at two other wet detention basins at different locations in the permitted area. The Partnership will report the results of monitoring at the two additional wet detention basins in the 2012/13 annual report.

Pilot Watershed – New Development BMP Evaluation

The Partnership is required to conduct an evaluation of the effectiveness of new development best management practices (BMPs) within the upper Laguna Creek watershed. The Partnership developed a work plan (see Appendix 2C) to meet this requirement. The work plan describes three study options for an effectiveness assessment that meets the intent of the Stormwater Permit requirement given the potential lack of new land development during the permit term. The three options include:

1. Monitoring of a new development BMP within the Upper Laguna Creek watershed
2. Monitoring of a Low Impact Development (LID)-type BMP outside of the Upper Laguna Creek watershed
3. Monitoring of a receiving water site within the Upper Laguna Creek watershed to establish baseline conditions on which future post-development conditions can be compared

As proposed in Appendix 2C, the Partnership will monitor a BMP or a receiving water site during FY 2012/13 or FY 2013/14. If a BMP is selected, the Partnership will monitor the inlet and outlet during three storm events each year for a total of six storm events during the permit term. Additionally, the Partnership will assess the ability of the BMP to reduce runoff volume as this has an impact on the overall pollutant load. If the Partnership selects a receiving water site, the monitoring schedule will match that of the other Partnership receiving water monitoring sites (three storm events and one dry event per year).

The Partnership will submit a technical report at the study conclusion in the final annual report of the Stormwater Permit term to describe the results of the water quality monitoring, BMP effectiveness and runoff reduction. The report will document installation and maintenance costs and make recommendations regarding future use and applicability of the BMP within the Sacramento Partnership area.

Proprietary Treatment BMP Effectiveness Evaluation

The Partnership will continue to research the effectiveness of proprietary structural treatment BMPs. Guidelines for reviewing and evaluating the performance of these devices will follow the protocol developed in the *Comprehensive Protocol for Performance Evaluation of Proprietary Stormwater Control Products* (performance protocol) found at the Partnership web site http://www.sacramentostormwater.org/SSQP/development/proprietary.asp. The Partnership will research the following activities during the Stormwater Permit term:

- Review of current proprietary treatment BMP monitoring studies and assessment of product effectiveness, including the following devices:
  - CONTECH Storm Filter, 15 gpm/cartridge or 2 gpm/ft^2 unit
  - BayFilter pilot
- Review and where necessary revise the performance protocol. Minimum criteria (from the protocol) will be established for submittals. The revised protocol will be posted on the Partnership website.
- Once the Partnership revises the performance protocol, the Partnership will provide outreach to proprietary device manufacturers and solicit field performance data to demonstrate effectiveness of their products. The outreach will include meeting with vendors, posting the information on the Partnership website, and sending submittal request to the Stormwater Equipment Manufacturers Association (SWEMA) and its members.
- Conduct a comprehensive review of the lab and field data from the proprietary treatment BMPs, and, as a result, update the list of approved devices.

Monitoring Coordination

The Partnership has coordinated with and supported other monitoring efforts, some of which are described below:

- Central Valley Regional Water Quality Control Board – The Regional Water Board oversees monitoring specific to TMDL development and region-specific support of the Statewide Ambient Monitoring Program (SWAMP). Most recently, the Regional Water Board has initiated a stakeholder-driven Regional Monitoring Program (RMP) for the Central Valley that includes the Delta, the Sacramento River watershed and the San Joaquin River watershed. The Regional Water Board has prioritized the Delta effort, but efforts in all watersheds are ongoing.

- The Sacramento River Watershed Program (SRWP) is a stakeholder effort that is concerned with Sacramento River watershed resources and conducts various monitoring activities within the watershed. Currently, the effort is developing a funding plan in coordination with other monitoring efforts, including the RMP initiative.
- The U.S. Geological Survey (USGS) National Water Quality Assessment (NAWQA) Program provides consistent and long-term comparable information on rivers and streams nationally. The second cycle of monitoring in the Sacramento River watershed is underway until 2014. Monitoring is focused on two locations that coincide closely with the Monitoring Program's locations: Sacramento River at Freeport and Arcade Creek near Del Paso Heights (Watt Avenue). Currently NAWQA is monitoring on the Sacramento River only.
- The California Department of Water Resources oversees the CALFED Bay-Delta Program monitoring project funds related to source control for the statewide protection of drinking water supply. Numerous efforts are ongoing related to urban runoff BMPs and characterization of sources.

2.4.4 Effectiveness Assessment

The Partnership annually assesses the effectiveness of the Monitoring Program in collecting high quality data that supports program objectives. The Partnership adjusts field sampling techniques as a result of this assessment in order to maintain the collection of high quality data. Additionally, the Partnership annually completes the Monitoring Program reporting and data analysis required to complete the effectiveness assessments described in Chapter 2.3 and Section 2.4.2.

Notice of Water Quality Exceedances (NWQE)

The Partnership is required to compare the monitoring data collected in receiving waters against a prescribed set of water quality objectives. If monitoring data exceed water quality objectives, the Partnership must submit a NWQE to the Regional Water Board within 90 days of the monitoring event. The Partnership summarizes these reports within the annual reports.

This approach helps identify potential impacts to beneficial uses, but does not consider site-specific conditions, the extent to which urban runoff caused the problem, or the presence/absence of specific beneficial uses downstream.

Report of Water Quality Exceedances (RWQE)

The Partnership submits an annual RWQE that identifies constituents that exceed the water quality objectives for receiving water where urban runoff may cause or contribute to the exceedance and proposes changes to the SQIP as needed.

The year-end RWQE considers the extent to which urban runoff causes or contributes to the exceedances. The Stormwater Permit does not specify a method for this assessment, and the Partnership has developed an assessment process. The Partnership updates and reports the process flow chart in the AMR.

Data Analysis Approach

The Stormwater Permit requires data analysis for the purpose of characterizing discharged loads and assessing the effectiveness of the Partnership Program in removing loads and improving receiving water quality. The objectives of the effectiveness assessments are discussed further in Section 2.3 of this SQIP. The final annual report of the Stormwater Permit term and/or the Report of Waste Discharge (ROWD) will contain additional analyses for the target pollutant list, found in Section 2.5. Some of the expected analysis are discussed below and are summarized by monitoring type in Table 2.4-2.

Trend Analysis

Trend analysis measures a change in the condition of stormwater or a receiving water body over time. The analysis ranges in level of complexity from comparisons of medians from different periods and time series analysis to the more detailed regression-based analysis. The Partnership will perform trend analysis incrementally throughout the permit term and report progress annually and in the final long term effectiveness assessment (LTEA) submitted with the Report of Waste Discharge/NPDES Permit application. The Partnership will annually prepare a comparison of different period medians and time series plots. The Partnership will evaluate trends of discharges and receiving water quality and consider several factors, such as changes in sample collection methods, data quality differences and changes in analytical methods.

The LTEA will include a trend analysis that includes a more detailed regression-based analysis. The Partnership has developed and analyzed regressions with a power analysis to determine the required monitoring period, data points and statistical power sufficient to detect long-term trends in urban runoff. The Partnership will then complete the long-term effectiveness assessment for target pollutants and include an evaluation of significant correlations of target pollutants to other factors and constituents. It is expected that trends can be identified for some constituents; however, the precise cause of changes may not be apparent.

Upstream-Downstream Comparisons

Comparisons of upstream and downstream concentrations provide an assessment of changes in water quality between the two locations. There are other influences beside urban runoff discharge, and impacts may not be directly attributable to urban runoff. The Partnership will consider impacts on the rivers with statistical paired comparisons of upstream and downstream data. The Partnership will perform the analysis on recently collected target pollutant data in both the Sacramento and American Rivers.

Urban Runoff (Discharge) Load Modeling

An estimate of total pollutant loads attributable to urban runoff for target pollutants at each urban runoff (discharge) monitoring station will be reported in the final annual report of the Stormwater Permit. The Partnership previously performed a regression-based continuous simulation of discharge loads of specific constituents from the entire permitted area. The Partnership will update these regressions as part of the long-term effectiveness assessment, and will consider a similar model for all target constituents. The Partnership will also consider alternate load calculation methods ranging from a simple approach (median concentration and median flow) to other commonly used approaches (e.g., LOADEST).

An initial study of mercury and methyl mercury that is due to the Regional Board in the October 2009 annual report will review the different load calculation methods (see the Mercury Monitoring Analysis paragraph above). The model results will estimate discharged loads from the monitoring stations and the permitted area and consider data from newly developed areas.

BMP Effectiveness Assessments

The Partnership measures the effectiveness of new development standards and specific BMPs through evaluations of programmatic and monitoring data. The Partnership approach considers multiple information sources to perform this effectiveness assessment. The Partnership will perform the approach described below for target pollutants over the course of the Stormwater Permit term.

- *Watershed Inventory*

The watershed inventory is an "accounting" (rather than statistical) model approach that summarizes known BMP performance (from Permittee and literature data) and estimates the load removed by summing the performance data of all the known BMPs in the permitted area. The Partnership can compare the inventory to both the discharge load model estimates and the observed loads in receiving waters to estimate the relative impact of Permittee BMPs on urban runoff and receiving water quality. The Partnership will conduct this inventory using a simple spreadsheet model[6] that will estimate primary and secondary pollutant sources and the pollutant removal benefit of current program activities.

- *Comparison of New Development vs. Older (pre-1990) Development*

  In 2008, the Partnership initiated urban runoff monitoring in the newly developed North Natomas (Basin No. 4) area. Data from this new development discharge can be directly compared to ongoing monitoring of older development discharges to evaluate the effectiveness of new development standards, including wet detention basins.

- *BMP Effectiveness Studies*

  The Partnership will measure BMP effectiveness directly with detention basin monitoring, Laguna Creek watershed monitoring and proprietary treatment device studies.

  The Partnership pairs North Natomas Basin No. 4 discharge (outlet) monitoring with inlet monitoring to assess the effectiveness of reducing constituent concentrations. The Partnership will perform paired (inlet-outlet) statistical comparisons to determine if the sites have statistically different water quality. The Partnership will estimate the discharge concentration and/or discharged load reduced to characterize the basins removal effectiveness.

  The Partnership intends to utilize the upper Laguna Creek pilot watershed project to quantify changes in water quality and ideally attribute changes to watershed development activities. If significant development does not occur in the proposed study area, the study will focus on monitoring the pollutant- removal effectiveness of a low impact development practice elsewhere in the Permittee area.

  The Partnership will utilize information from the Proprietary Treatment BMP Effectiveness Evaluation to guide the use and selection of Proprietary Treatment BMPs.

Target Pollutant Program Coordination

The Target Pollutant Program is based on an iterative process of monitoring, data evaluation, issue prioritization, and work plan development and is discussed in detail in the next chapter. The Partnership analyzes monitoring data jointly through Monitoring Program and Target Pollutant Programs. The Partnership coordinates these activities closely, and the results of effectiveness evaluations in either program element often directly affect activities in the other program element.

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[1] Sacramento Stormwater Management Program, *Technical Memorandum: An Evaluation of Methods for the Assessment of Long Term Effectiveness of the Sacramento Comprehensive Stormwater Management Program,* Prepared by Larry Walker Associates, 1996.

[2] Geis, Stephen W., et. al. "Modifications to the Fathead Minnow (Pimephales promelas) Chronic Test Method to Remove Mortality Due to Pathogenic Organisms*, "Environmental Toxicology and Chemistry*," Vol. 22, No. 10, April 2003, pp 2400-2404.

[3] Office of Research and Development, "Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, EPA/600/6-91/005F" (United States Environmental Protection Agency, May 1992)

[4] "Methods for Aquatic Toxicity Identification Evaluations, Phase 1: Toxicity Characterization Procedures, Second Edition EPA-600/6-91/003" (United States Environmental Protection Agency, February 1991),

[5] Weston, D. P., Holmes, R. W., et.al., Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides, *Environmental Science and Technology*, Vol. 39, 2005, 9778-9784.

[6] Caraco, D, *the Watershed Treatment Model*, Center for Watershed Protection, Ellicott City, MD, 2001.

Table 2.4-3

Regional Monitoring Program Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard (Target)	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Receiving Water Monitoring												
Conduct river monitoring during 3 wet events and 1 dry event	MRP II.B.					⇔	⇔	⇔	⇔	⇔	⇔	
Conduct urban tributary monitoring during 3 wet events and 1 dry event	MRP II.B.					⇔	⇔	⇔	⇔	⇔	⇔	
Urban Runoff (Discharge) Monitoring												
Conduct urban discharge monitoring during 3 wet events and 1 dry events on a schedule of 2 years on and 1 year off	MRP II.C.					⇔	⇔		⇔	⇔		
Water Column Toxicity												
Conduct water column toxicity testing on receiving water samples for two wet weather events and one dry weather event	MRP II.D.						⇔		⇔			Update sampling and analysis plan, October 1, 2010
Conduct toxicity identification evaluations on substantially toxic samples (>50% from control), as required	MRP II.D.						⇔		⇔			
Conduct toxicity reduction evaluations whenever a toxicant is successfully identified through the TIE Process as required by the permit	MRP II.D.						⇔		⇔			
Sediment Monitoring												
Conduct monitoring at the urban tributary monitoring sites once during the wet season and once during the dry season	MRP II.E.					⇔	⇔	⇔	⇔	⇔	⇔	
Bioassessment Monitoring												
Evaluate bioassessment monitoring data collected under previous MRP	MRP II.F.						⇔					
Water Quality-Based Programs												
Additional pesticide monitoring to be determined after TMDL adoption	MRP.G.1.										⇔	
Additional Mercury and Methylmercury Analyses												
Incorporate previously collected total mercury and methylmercury data within a model	MRP G.2.					⇔	♦					
Evaluate methods to estimate discharge volume	MRP II.G.2.f.					⇔	♦					October 1, 2009

⇔ Ongoing activity/task ♦ Deliverable or key milestone ② Effectiveness assessment activity (expected outcome level indicated)

Table 2.4-3

Regional Monitoring Program Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard (Target)	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Special Studies: Wet Detention Basin Monitoring												
Conduct monitoring for a total of nine wet weather events and three dry weather events	MRP III.A.					⇔	⇔	⇔				
Prepare and submit a Study Report in FY 10/11 Annual Report that includes recommendation for collecting inlet/outlet grab samples at two other detention basins	MRP III.A.							⇔	♦			October 1, 2011
Evaluate concentration changes and loads discharged performance		✓	demonstrate pollutant load removal potential	paired inlet-outlet comparisons	inlet data and urban runoff from other locations			⇔	♦❹❺			October 1, 2011
Collect grab samples at two other detention basins	MRP III.A.6.								⇔			
Prepare an addendum to the FY 10/11 Study Report	MRP III.A.8.									⇔	♦	October 2013 final annual report of Permit, Note: Permit expires in September, 2013
Special Studies: Pilot Watershed-New Development BMP Evaluation												
Track development of Upper Laguna Creek watershed to determine if study is feasible	MRP III.C						⇔	⇔				
Finalize BMP selection and develop Sampling and Analysis Plan								⇔	⇔			
Conduct monitoring										⇔	⇔	
Perform data summary and effectiveness evaluations for final report		✓	depends on type of study option	depends on type of study option, but could include regression studies, inlet-outlet comparisons, upstream-downstream comparisons, and others							⇔	
Special Studies: Proprietary Treatment BMP Evaluation												
Review study method and evaluation criteria	MRP III.D.						⇔					
Evaluate data submitted from manufacturers	MRP III.D.							⇔	⇔	⇔	⇔	

⇔ Ongoing activity/task ♦ Deliverable or key milestone ❷ Effectiveness assessment activity (expected outcome level indicated)

Table 2.4-3

Regional Monitoring Program Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard (Target)	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Complete a comprehensive review of proprietary treatment devices	MRP III.D.								⇔	⇔	⇔	
Dry Weather Monitoring Analysis												
Examine dry weather monitoring results to identify water quality problems. Perform follow-up investigations if the examination indicates a need to investigate.	B.5.					⇔	⇔	⇔	⇔	⇔	⇔	
Annual Work Plan												
Submit Annual Work Plan	D.3.a.					♦	♦	♦	♦	♦	♦	May 1 each year
Annual Report												
Submit Annual Report	D.3.b.					♦	♦	♦	♦	♦	♦	October 1 each year
Effectiveness Evaluation												
Annually evaluate Water Quality Based Programs; certain key requirements specified below	MRP I. B.					♦	♦	♦	♦	♦	♦	October 1 each year
Estimate total discharged volume	MRP I.B.9			compare total discharged volume between permit periods	2007 ROWD	⇔	⇔	⇔	⇔	⇔	⇔	October 2013 final annual report of Permit, Note: Permit expires in September, 2013
Estimate total pollutant loads for target pollutants	MRP I.B.10.a	✓	maintain level of target pollutant load discharged	compare loads and loading rate between permit periods	2007 ROWD	⇔	⇔	⇔	⇔	⇔	♦❹❺	October 2013 final annual report of Permit, Note: Permit expires in September, 2013
Prepare receiving water concentration data trend summaries and comparisons of urban runoff concentrations	MRP I.B.10.b.	✓	decreasing concentration trends	compare expected trends to observed trends and discuss differences	historical monitoring data	⇔	⇔	⇔	⇔	⇔	♦❺❻	October 2013 final annual report of Permit, Note: Permit expires in September, 2013

⇔ Ongoing activity/task ♦ Deliverable or key milestone ❷ Effectiveness assessment activity (expected outcome level indicated)

Table 2.4-3

Regional Monitoring Program Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard (Target)	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Evaluate significant correlations of target pollutants with other constituents	MRP I.B.10.c.			establish relationships between conditions to better understand urban runoff and receiving water impacts	historical monitoring data						♦	October 2013 final annual report of Permit, Note: Permit expires in September, 2013
Evaluate Wet Basin monitoring results for effectiveness in removing mercury	MRP III. A. 6.	✓	decreasing total mercury while not generating significant methylmercury	compare inlet and outlet concentrations and loads; performed for other constituents by Monitoring Program	inlet concentrations and older development characterization				♦❹			October 1, 2011
Notice of Water Quality Exceedance - Submit event-based notice of water quality exceedance	C.3.a. & MRP I.C.			comparisons used as initial step for RWQE		⇔	⇔	⇔	⇔	⇔	⇔	90 days from monitoring event
Report of Water Quality Exceedances - Submit report of water quality exceedance as part of the Annual Report	C.3.b.	✓	reduction in observed exceedances for RWQE constituents	quantify exceedance rates for RWQE constituents each year	historical monitoring data	♦❻	♦❻	♦❻	♦❻	♦❻	♦❻	October 1 each year
Prepare upstream-downstream water quality comparisons		✓	decreasing differences in water quality over time	paired comparisons of data	historical monitoring data	⇔	⇔	⇔	⇔	⇔	♦❻	October 2013 final annual report of Permit, Note: Permit expires in September, 2013
Wet Detention Basin performance			see Monitoring Program special study description									
Pilot Watershed study			see Monitoring Program special study description									

Notes:

1. Performance standards achieve effectiveness outcome level 1 unless otherwise indicated

2. Assessing effectiveness of performance standards may be limited pending availability of baseline data

⇔ Ongoing activity/task ♦ Deliverable or key milestone ❷ Effectiveness assessment activity (expected outcome level indicated)

2.5 Target Pollutant Program

2.5.1 Introduction

The Sacramento Stormwater Quality Partnership (Partnership) implements the Target Pollutant Program to identify priority pollutants and focus resources on the pollutants most likely to impair local receiving waters. The Partnership prioritizes constituents through an evaluation process that considers stormwater monitoring data, sources of pollutants, pathways into local waterways, and impacts to the waterways. The Partnership develops reduction strategies for priority pollutants and identifies control strategies to reduce the discharge. To date, the Partnership has established reduction strategies for pesticides, mercury, copper, lead and pathogen indicators. The strategies are evaluated annually. Table 2.5-2, Regional Target Pollutant Program Activities Work Plan follows this section of the SQIP.

The target pollutant identification and control process is summarized below and illustrated in Figure 2.5-1.

Step 1 - Identification and Ranking of Target Pollutants

The Partnership begins the ranking of target pollutants by comparing monitoring data to indicators of actual or potential water quality impacts following the *Target Pollutant Prioritization Procedure*[1]. The Partnership collects most of the monitoring data including water chemistry, aquatic toxicity and sediment data (see Table 2.4-2 and 2.4-4). Partnership data are complemented by other readily available and reliable regional study data that characterize toxicity identification or bioaccumulation potential. The indicators used in the comparisons are threshold values (i.e., water quality objectives) from the California Toxics Rule (CTR), Water Quality Control Plan for the Sacramento and San Joaquin River Basins (Basin Plan), U.S. EPA Safe Drinking Water Maximum Contaminant Levels (MCLs), and other applicable thresholds. Additional scoring categories are based on observed aquatic toxicity, bioaccumulation and the existence of specific regulatory programs for the constituent. The constituents are ranked using a weighted scoring scheme based on best available science and professional judgment.

A "program implementation" processing step was added to the previously developed protocol in March 2009 to consider controllability, treatability and the impact of urban runoff on beneficial uses[2].The target pollutants are categorized and grouped based on the following considerations:

- Report of Water Quality Exceedance (RWQE) status – is the constituent included in a previous RWQE?
- Source controllability – can the constituent sources be identified and reduced?
- Urban runoff treatability – what level of treatment is required to remove the constituent from urban runoff prior to discharge?
- Urban runoff impact on beneficial use – do concentrations of the constituent in urban runoff directly impact an established beneficial use, including consideration of the following:
    - Regulatory factors such as the tributary rule[3] and U.S. EPA drinking water maximum contaminant levels[4]
    - Beneficial use analysis
    - Recalculation of applicable site-specific water quality objectives using advanced analytical tools such as the Biotic Ligand Model (BLM) and pathogen source identification

A description of the revised target pollutant identification and ranking process and analysis results are included in Appendix 2D. The individual constituents were evaluated as a group and prioritized as shown in Table 2.5-1:

Table 2.5-1
Prioritized Target Pollutant Groups

2009 Target Pollutant Group	Priority
Sediment Erosion Surrogates	High
Pathogen Indicators	Medium
Pesticides	Medium
Mercury	Medium
PAHs	Medium
Unquantified Sources (e.g., Bis(2-ethylhexyl)phthalate)	Medium
Drinking Water Issues (e.g., TOC, TDS, and nutrients)	Medium
Metals	Medium
Petroleum Products	Low
Legacy Pollutants	Low

Step 2 - Identification and Prioritization of Sources

The Partnership identifies and ranks likely pollutant sources for identified target pollutant groups, based on available local, statewide, and national literature. Sources include specific products, materials, and activities that contain or are likely to contribute target pollutants to urban runoff. The Partnership ranks sources for each target pollutant group to focus on those sources with the greatest potential for reducing local pollutant levels. The Partnership evaluates these sources during the annual effectiveness evaluation of the Target Pollutant Program.

Step 3 - Development of Target Pollutant Control Strategies

The Partnership develops and updates area-wide strategies for controlling the top-ranked sources of each target pollutant. This involves selecting the most technically effective, practical and cost-effective combination of control measures, and therefore begins with a review of potentially applicable ones. The Partnership evaluates control measures with pilot studies, technical studies, and extensive literature reviews.

For sources that cannot be effectively controlled with local programs, the Partnership actively seeks ways to influence regional policy, participate in State and Federal regulatory processes, or to support other agency or stakeholder efforts to achieve pollution reduction. For example, Partnership staff led the effort of the California Stormwater Quality Association (CASQA) to influence State and Federal pesticide registration and evaluation activities, with a goal of establishing adequate regulatory processes for preventing and responding to urban water quality issues caused by pesticides.

Step 4 - Implementation of Target Pollutant Control Strategies

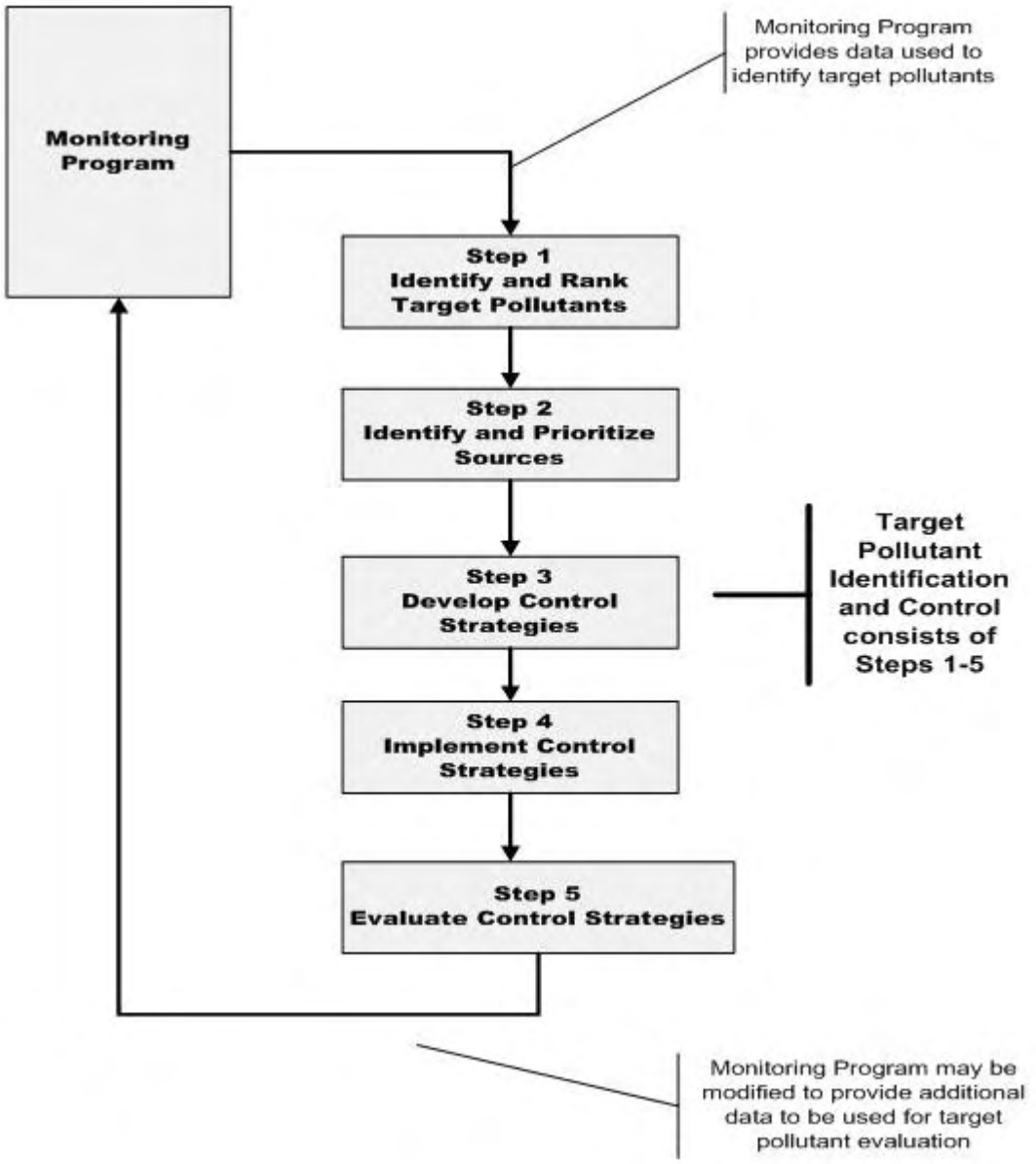
The Partnership implements control strategies as part of other Permittee program elements (such as Municipal Operations), or under the Target Pollutant Program. Selected control strategies and activities may be implemented under one program element or several program elements, and may be completed jointly by the Partnership or by the individual Permittees. The Partnership identifies pollutant sources, control strategies and responsible parties with annual workplans.

Step 5 - Effectiveness Assessment of Target Pollutant Control Strategies

The Partnership utilizes the California Stormwater Quality Association (CASQA) methodology to assess the effectiveness of the Partnership Program (see Section 2.3), including control strategies for target pollutants. The Partnership annually evaluates the Target Pollutant Program and strategies as described later in Section 2.5.3.

The assessments will help determine needed changes to the Target Pollutant Program strategies, specific activities or the overall Partnership Program. The evaluations and any subsequent changes to programs or activities will be included in the annual reports submitted to the Regional Water Board.

Figure 2.5-1
Target Pollutant Identification and Control Process



2.5.2 Target Pollutant Strategies

This section describes the target pollutant control strategies planned for the permit term summarized in the Target Pollutant Activities Work Plan.

Sediment Erosion Control Strategies

In March 2009, the Partnership identified sediment erosion as a high priority target pollutant group. Previously the Partnership included target pollutant listings for turbidity and total suspended solids, but at a slightly lower priority level. The revised March 2009 target pollutant prioritization process now considers controllability and treatability directly which greatly increases the priority of sediment-related pollutants, although there are no Partnership receiving waters that are listed as impaired due to sediment.

Historically, the Partnership has recognized that sediment erosion can cause impairment to aquatic life and drinking water beneficial uses in receiving waters and that erosion of urban tributary banks due to peak urban runoff flows can also impact general water quality and riparian habitat. The Partnership has historically addressed sediment erosion control through several programs and new development policies. In fact, nearly all the Partnership Program elements already address sediment erosion control.

Specifically, the Partnership has performed and will continue to perform the following activities:

- Implementation of revised new development standards to require LID strategies
- Review, inspection and enforcement of construction BMP standards
- Street sweeping and Partnership-owned parking facility maintenance
- Catch basin, sumps, and open channels cleaning
- Turbidity sampling in several urban tributaries to characterize potential impacts and changes over time

Although the Partnership has implemented these sediment erosion control strategies, these efforts have not been formally documented as part of the Target Pollutant Program. The Partnership will develop such a plan in the upcoming Permit term.

Pathogen Indicator Control Strategies

Fecal coliform and *E. coli* have been used to indicate the potential presence of fecal matter and by extension, of pathogenic microorganisms associated with fecal matter, in receiving waters. Although coliform levels have not been shown to correlate well with pathogenic microorganisms, they continue to be used as indicators due to the lack of affordable and reliable analytical methods for detecting pathogens directly. When the pathogens such as *Giardia* and *Cryptosporidium* have been directly tested in Sacramento receiving waters, they are in most cases non-detect or present at low concentrations. [5,6]

Despite the lack evidence of the presence of pathogens, the Partnership finalized a Fecal Waste Reduction Strategy in 2003/2004. Potential sources of observed fecal coliform bacteria in urban receiving waters include *in situ* growth, wild animals, domesticated pets, live stock, aquatic recreation, domestic wastewater overflows, and lack of sanitation facilities for homeless persons. A principal finding of the strategy is that some sources of coliform/pathogens, such as wildlife, are not readily amenable to source control. The reduction strategies therefore focus on controllable sources to reduce the discharge of fecal material to the storm drain and creeks. The strategy also includes periodic review of source identification technology which might have the potential to identify additional controllable sources.

The Partnership will implement the Fecal Waste Reduction Strategy that includes the control strategies shown below in the 2008-13 permit term.

Specifically, the Partnership has performed and will continue to perform the following activities:

- Prohibit cross-connections from sewer system to the storm drain
- Prohibit discharges of pet waste into the MS4
- Inspect kennels for appropriate waste handling procedures
- Conduct outreach promoting appropriate disposal of boating wastewater
- Conduct outreach and support practical alternatives to increase appropriate disposal of pet waste
- Conduct outreach promoting appropriate livestock manure management
- Maintain coverage under the State Water Resources Control Board General Waste Discharge Requirements for sewer overflows
- Conduct three Coliform/Pathogens Workgroup meetings to review current status of coliform/pathogen control efforts in the state and identify additional actions, if any

Pesticide Control Strategies

The Partnership recognized in 1995 that the pesticides diazinon and chlorpyrifos were present in toxic levels in stormwater discharges and local receiving waters. Since then, the Partnership has worked to proactively address this problem as pesticides continue to be a significant priority pollutant.

Studies conducted in Northern California have since shown that pesticide applications made by private residents may be responsible for approximately one-half of the pesticides applied in urban areas. [7] These studies also indicate that the large volume of pesticides applied in urban areas by both residents and Pest Control Operators (PCOs) could account for the observed levels of pesticide contamination of stormwater, even if the pesticides are legally applied. [8]

Accordingly, the Partnership pesticide control strategies emphasize efforts to influence state and federal pesticide policies as well as outreach for residents and PCOs.

During the next permit term, the Partnership will implement the comprehensive Pesticide Plan included as Appendix 2H of this SQIP approved by the Regional Water Board in 2006 as indicated in the Permit. The plan's pesticide control strategies for the next permit term are shown below. The Permittees will implement the strategies for each individual agency.

Specifically, the Partnership has performed and will continue to perform the following activities:

- Document and evaluate municipal pesticide use
- Require oversight of municipal use by Certified Pesticide Applicator
- Establish and conduct training program for public agency pesticide applicators
- Establish Permittee-specific IPM policies or ordinances
- Begin and/or continue establishment of department specific IPM plans and procedures
- Ensure that Permittees have coverage under Aquatic Pesticide Permit, if required
- Coordinate structural BMP design and maintenance with Sacramento-Yolo Mosquito and Vector Control District

- Support local IPM outreach and education programs, such as Water Wise Program and Our Water Our World
- Support Household Hazardous Waste (HHW) programs
- Include pesticide information in stormwater media campaign
- Encourage incorporation of IPM in design of new development landscaping and buildings
- Provide training and promote implementation of IPM by Institutional Pesticide Users
- Continue regulation by the County Agricultural Commissioner
- Enforce local prohibitions against illegal discharges
- Promote IPM implementation by PCOs
- Conduct water quality monitoring
- Track relevant monitoring programs by other agencies
- Conduct residential pesticide sales and use surveys once per permit term and utilize in outreach efforts
- Evaluate PCO pesticide use data
- Track and comment on State and Federal regulatory activities that pertain to pesticides of significance to urban stormwater discharges
- Provide input for pesticide product risk assessments for surface water quality
- Participate in the development of TMDLs for pesticides in Sacramento urban creeks
- Support improvements in State and Federal pesticide regulations
- Revise Pesticide Plan to incorporate pyrethroid sediment monitoring activities

Mercury Control Strategies

The Partnership identified mercury as a top-ranked target pollutant in 2002. Mercury is a problem due to the high levels of methylmercury measured in several species of edible fish in the Delta. Methylmercury content poses a threat to humans and wildlife that consume the fish, and thus impairs fisheries. This led to the listing of the Delta as a high priority impaired water body on the State's 303(d) list, and a draft Total Maximum Daily Load (TMDL) for mercury in the Delta has been released for public comment.

The dominant sources of mercury now found in the Delta are historical and gold mining upstream of Sacramento, as well as geologic sources such as soils and springs located throughout the Coast Ranges. Atmospheric deposition from remote sources such as coal fired power plants and volcanoes are believed to be a significant contributor to mercury levels in the Delta.

It is unlikely that even complete removal of all mercury from urban runoff would have a significant effect on the levels of mercury in the water column and sediment, or on the levels of methylmercury in fish tissues of the Delta. This is because of two main factors. The first is that mass loading of mercury discharged from the Partnerships' storm drain systems to local waterways is very small, when compared to the amount of mercury being discharged by other sources in the watershed and the amount already present in sediments of the Delta and the rivers. The second factor is that the amount of mercury discharged by the Partnership is greatly overshadowed by biogeochemical processes occurring in the river and the Delta that generate methylmercury from mercury already present in water and sediments.

Despite these limitations, the Partnership submitted and subsequently began implementing a comprehensive Mercury Plan in 2004, included as Appendix 2I of this SQIP. The reduction strategies included in the plan focus on controllable sources and include primarily activities associated with municipal operations, industrial inspections, public outreach, participation in initiatives to increase mercury recycling, and participation in efforts to address mercury on a regional or watershed basis. A number of these strategies are general stormwater BMPs such as street cleaning and detention basins that are not designed to specifically address mercury; however they are effective at removing a wide variety of pollutants, including mercury, from urban runoff. The pollutant control strategies to be implemented during the next permit term are shown below. In addition, the Partnership actively participates in the stakeholder groups for the Delta Methylmercury Total Maximum Daily Load (TMDL). The Partnership will continue working with the Regional Water Board through this stakeholder process to confirm initial TMDL allocations and evaluate actions that can be implemented to meet allocations. The Permittees will implement the strategies for each individual agency.

Specifically, the Partnership has performed and will continue to perform the following activities:

- Conduct street cleaning
- Maintain detention basin operations
- Conduct drainage facility maintenance
- Require erosion and sediment control BMPs
- Continue new development requirements for on-site and regional stormwater treatment BMPs
- Update Mercury Plan for consistency with final TMDL, include methodology for calculating mercury load reductions
- Participate in the Delta Tributary Mercury Council (DTMC) on mercury watershed programs
- Track HHW mercury reduction programs
- Track mercury air deposition and emission studies relevant to the Sacramento area
- Review and provide input for Delta and Sacramento River TMDL
- Incorporate mercury recycling messages into general materials and events
- Develop fact sheet for distribution to County EMD staff
- Conduct outreach to other commercial/ industrial businesses
- Incorporate coordination with the countywide universal waste management strategy into the Mercury Plan
- Evaluate and summarize 2004 and 2007 public awareness/opinion survey data related to mercury, and develop recommendations for amending Partnership source control programs and implement accordingly
- Evaluate total mercury and methylmercury data collected to date
- Estimate amount of total mercury and sediment prevented from discharging to receiving waters by existing BMPs
- Consider including monitoring in the design of future BMP studies

Metals Control Strategies

Metals such as copper, zinc and lead can be toxic to the aquatic environment if present in significant bio-available concentrations. The Partnership will continue to implement control strategies that address these constituents during the next permit term. The control strategies are primarily incorporated into other program elements and primarily include sediment control and removal, waste diversion and public outreach and are listed below.

Specifically, the Partnership has performed and will continue to perform the following activities:

- Conduct street cleaning
- Maintain detention basin operations
- Conduct drainage facility maintenance
- Require erosion and sediment control Best Management Practices (BMPs) for construction projects
- Continue new development requirements for on-site and regional stormwater treatment BMPs
- Implement an industrial inspection program
- Support HHW collection
- Continue financial support of the Brake Pad Partnership

Information about the specific constituents follows.

Copper

Copper occurs naturally in local soil and water and its release to the urban environment is a by-product of human activities. Copper can cause aquatic life toxicity if it is in a bio-available form (i.e., usually a dissolved form) at a sufficiently high concentration and a sufficient length of exposure occurs.

In 1997, the Partnership identified and prioritized sources of copper, as well as potentially effective control strategies.[9,10,11] This effort identified several potential sources of copper: rainfall, potable water used outdoors, naturally occurring copper in soils, brake pad wear, and possibly pesticide use.

In the 1990's, Bay Area stormwater programs estimated that approximately 80% of copper in urban runoff may originate from brake pad wear. Therefore, reducing the content of copper in manufactured brake pads was hypothesized to be a likely effective control measure for copper. Subsequently, brake pad industry representatives and water quality interests (environmental organizations; and state, federal, and local government agencies) voluntarily formed the Brake Pad Partnership. The Partnership contributes financial support to this effort, which examined the link between copper in automotive brake pads and copper in surface waters. The Brake Pad Partnership's rigorous analysis has confirmed that brake pads are the largest source of copper in urban runoff. This has led to proposed legislation in California, supported by stormwater agencies, to reduce the copper content of brake pads.

Through the Notice of water Quality Exceedance (NWQE) process for local receiving water quality data (discussed in more detail in Section 2.4, the Monitoring Program), the Partnership reported a number of exceedances of copper in urban creeks, in both dissolved and total recoverable forms. These exceedances were based on the California Toxics Rule objective, which allows for a hardness adjustment but does not consider other significant site-specific receiving water conditions that affect copper aquatic toxicity. Through application of the U.S. EPA's recently adopted Biotic Ligand Model (BLM)-based water quality objective, the Partnership has determined that copper toxicity occurs much less frequently than previously believed.[12]

Lead

Historically, lead had numerous uses in the urban environment. This resulted in a legacy reservoir of lead. The largest historical sources of lead in urbanized areas were gasoline and lead paint. Many buildings painted before 1978 include lead paint, which remains on the houses and thus continues to be a source of lead in urban runoff. Lead gasoline was phased out in the 1970s and 1980s, but lead levels in soil in urban areas continue to exceed background levels. Lead contained in soils and subsequently mobilized in urban runoff may contribute to the amount of lead observed in local waterways.

The Partnership identified lead as a target pollutant in 1996. The Partnership subsequently conducted studies to identify and prioritize sources of lead and identify potentially effective control strategies. Local potential sources of lead that were identified included weathering and erosion of lead-painted structures, small aircraft and vehicle exhaust emissions, tire wear, use of leaded pavement marking paints, erosion of soil with past accumulation of lead, shooting ranges, and several types of industries (auto and radiator repair shops; airports; auto dismantlers; machinery, electrical, and transportation equipment manufacturers; landfills and transfer stations; rail yards; and metal recyclers). The control strategy identification work led to a list of good housekeeping practices, structural controls, and education and training activities for the identified sources.

In 1998/99, a joint Lead/Copper Workshop was held with Permittee staff to integrate the results of the source and control strategy identification work into the activities of the various program elements.[11]

Zinc

Zinc occurs naturally in local soil and water and like copper is also a by-product of everyday human activities. Zinc can also cause toxic effects to aquatic life if it is in a bio-available form (i.e., usually a dissolved form) at a sufficiently high concentration and a sufficient length of exposure.

The Partnership has reported a number of exceedances of zinc concentrations in urban creeks through the NWQE process, in both dissolved and recoverable forms. These exceedances were based on the California Toxics Rule objective, which allows for a hardness adjustment but does not consider other significant water quality parameters that affect zinc aquatic toxicity. Through application of the U.S. EPA's Biotic Ligand Model, the Partnership has determined that zinc toxicity occurs much less frequently than previously believed.[12] When adjusted to consider site specific conditions using the BLM, zinc observed concentrations do not exceed, on almost all occasions, WQOs or site specific LC50s even in cases where the observed concentrations exceeded the CTR WQO. However, the BLM has not been approved yet by U.S. EPA for these types of zinc evaluations.

Based on work conducted on copper and lead sources, the Partnership currently believes that likely sources of zinc in urban runoff is tire tread wear and outdoor metal structures with galvanized metal surfaces such as fences, flashing, and rain gutters. Other sources include used motor oil discharges (leaks and illegal discharges) and soil erosion.

Other Target Pollutant Control Strategies

The Partnership will begin work to address new top-ranked target pollutants identified in the re-evaluation process, as resources allow. The Partnership will document the sediment and erosion control strategies as part of the Target Pollutant Program during the Permit term.

2.5.3 Effectiveness Assessment

The Partnership assesses Target Pollutant Program effectiveness through an evaluation of monitoring data analyses provided by the Monitoring Program and evaluation of activities conducted under the Target Pollutant Program and other Program elements (e.g. Municipal Operations or Industrial elements). The data analyses provided by the Monitoring Program described in section 2.4 include:

- Statistically based load modeling that considers relationships between multiple variables and urban runoff concentrations; correlations between constituents such as total suspended solids are also considered
- Trend summaries in the receiving waters
- Wet detention basin removal efficiency evaluations
- Upstream to downstream receiving water quality comparisons
- Report of Water Quality Exceedances preparation
- Long term statistical assessments of urban runoff concentrations

The near term evaluation of Target Pollutant Program effectiveness includes both assessment of behavior changes achieved (outcome level 3) and quantification of load reductions achieved (outcome level 4). The Long Term Effectiveness Assessment (LTEA), which will be conducted near the end of the Permit term will summarize and build on the effectiveness assessments in the annual reports and will provide an evaluation of the achievement of outcome levels 4 through 6.

The Partnership identifies and ranks likely pollutant sources for identified target pollutant groups and dedicates resources on those sources with the greatest potential for reducing local pollutant levels. As mentioned previously, the control strategies are implemented as Partnership (regional) activities such as providing funding for the Brake Pad Partnership or as a permittee-specific activity such as street sweeping. Some control activities for key sources may be very direct and are expected to achieve measurable results in the short term, such as street sweeping. Other control activities, such as outreach programs, are less direct and may take longer to achieve the desired changes. Finally, some control activities are, in effect, long term strategies that may have little or no effect on pollutant loads in the short term, but have the potential to achieve systemic changes that will result in significant, long term source control.

An example of this approach in assessing Target Pollutant control tasks is the Partnership's focus on Federal pesticide regulatory processes that contributed to the withdrawal of diazinon and chlorpyrifos from urban markets, which clearly resulted in a dramatic decrease in receiving water concentrations of these key pollutants. Typically pursued through changes in state and federal regulation of pollutant sources, pesticide long term strategies are expected to take years to achieve pollutant reduction. Therefore, near and mid-term interim assessment of these pesticide control activities focuses on programmatic aspects, such as participation in advisory groups and submitting comment letters on regulatory actions (outcome levels 1 and 2). Desired regulatory changes, when achieved, will typically result in behavior changes (outcome level 3) under the control of other agencies and stakeholders, such as pesticide mitigation measures or market restrictions imposed by US EPA or the State. These changes are in turn expected to lead to pollutant discharge reductions and improvements in receiving water quality (outcome levels 5 and 6).

In addition to the near term and long term assessments, the Partnership will also complete the five-step target pollutant prioritization process during the permit term. As described previously, the outcome of this process, a numerical score indicating the importance of various pollutants observed in Permittee discharges, provides additional perspective on the effectiveness of the Target Pollutant Program as changes are observed in target pollutant scores and their relative priority. The Partnership will also assess Pesticide and Mercury Plan effectiveness using the key indicators and performance standards included in Table 2.5-2, Regional Target Pollutant Activities Work Plan following this section of the SQIP. The assessments will include outcome level 3 and 4 type activities and will include recommendations for plan improvements.

Ultimately observing improvements in urban runoff quality may require extended monitoring periods (decades) because of the variable nature of pollutant sources, and of stormwater discharges. Due to the difficulty of measuring water quality improvements, it is often not possible to isolate the effect of specific control activities, but the aggregate effect of all control measures will be observable if it is of sufficient magnitude. In addition, the effect of local control programs may be obscured by ongoing pollutants from other areas (e.g., atmospheric deposition) and legacy sources (e.g., mercury, certain organochlorine pesticides, etc.) that are slow to degrade in the environment even after they have been banned or replaced. When sufficient data are collected, as determined by a statistical power analysis, the Partnership has planned a detailed statistical assessment of the Program's historical (1990-current) data that is intended to identify constituent concentration trends.

[1] Sacramento Stormwater Monitoring Program. *Target Pollutant Prioritization Procedure: Instructions and Year 2000 Update.* Prepared by Larry Walker Associates, Mach 2001.

[2] Laurenson, Brian M. March 2009. *2009 Target Pollutant Characterization Update Memorandum,* Prepared for the Sacramento Stormwater Quality Partnership.

[3] The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region, the Sacramento River Basin and the San Joaquin River Basin . Fourth Edition, California Regional Water Quality Control Board Central Valley Region, Revised October 2007, page II-2.00.

[4] The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region, the Sacramento River Basin and the San Joaquin River Basin, Fourth Edition, California Regional Water Quality Control Board Central Valley Region, Revised October 2007, page III-3.00.

[5] American River Watershed Sanitary Survey 2008 Update. Starr Consulting and Palencia Consulting. December 2008.

[6] Sacramento River Watershed Sanitary Survey 2005 Update. Montgomery Watson and Starr Consulting. January 2006.
[7] Alameda County Urban Runoff Clean Water Program, 1997. Characterization of the Presence and Source of Diazinon in the Castro Valley Creek Watershed. Prepared by J. Scanlin and A. Feng.
[8] Regional Water Quality Control Plan – Palo Alto, 1996. Diazinon in Urban Areas, Prepared by A. Cooper
[9] Sacramento Stormwater Management Program, December 1998. *1997/98 Annual Monitoring Report - Appendix D: Identification of the Sources of Copper in Sacramento Urban Runoff.* Prepared by Larry Walker Associates.
[10] Sacramento Stormwater Management Program, December 1998. *1997/98 Annual Monitoring Report - Appendix E: Copper Source Prioritization.* Prepared by Larry Walker Associates.
[11] Sacramento Stormwater Management Program, December 1998. *1997/98 Annual Monitoring Report - Appendix F: Copper Control Measure Identification.* Prepared by Larry Walker Associates.
[12]. Laurenson, Brian M. March 20087. *Results of Initial Biotic Ligand Model analysis of Sacramento Urban Tributary Data*. Prepared for the Sacramento Stormwater Quality Partnership (2007 Report of Urban Waste Discharge Appendix J Part IV. a.).

Table 2.5-2

Regional Target Pollutant Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard (Target)	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Overall Target Pollutant Strategy												
Continue to implement the Target Pollutant identification and prioritization process	D.27.a.					⇔	⇔	⇔	⇔	⇔	⇔	
Sediment Erosion Control Strategies												
Develop sediment control work plan						⇔	⇔	⇔	♦			October 1, 2011
Implement sediment control work plan									⇔	⇔	⇔	
Pesticide Control Strategies												
Continue to Implement Pesticide Plan	D.27.a.					⇔	⇔	⇔	⇔	⇔	⇔	
Identify and Promote IPM Program	D.27.a.					⇔	⇔	⇔	⇔	⇔	⇔	
Implement "Permittee Pest Control" section of Pesticide Plan	D.27.a.i.					⇔	⇔	⇔	⇔	⇔	⇔	
Implement "Public Education and Outreach" section of Pesticide Plan	D.27.a.ii.					⇔	⇔	⇔	⇔	⇔	⇔	
Conduct studies on sale of residential and commercial pest control products potentially found in storm water runoff	D.27.a.iii.	✓	decrease resident use of pesticides known to impact water quality	surveys	2004 residential survey				♦❸			August 11, 2011
Complete an assessment to determine if urban storm water is causing or contributing to an exceedance of water quality standards for diazinon and chlorpyrifos	D.27.a.iv.	✓	decreased concentrations in urban discharges and urban tributaries	quantification	2007 ROWD				♦❺			By 4th year June 30th 2012
Continue to support/participate in efforts to influence pesticide regulation by state and federal agencies	D.27.a.v.	✓	inclusion of manufacturer monitoring requirements in pesticide approvals	documentation	existing regulatory requirements - none	⇔	⇔	⇔	⇔	⇔❶	⇔	
Incorporate a Sediment Monitoring program into the Pesticide Plan	D.27.a.vi.									⇔		
Review and amend Pesticide Plan if pesticides in sediments are identified as causing or contributing to receiving water impacts	MRP E. 2.										⇔	
Mercury Control Strategies												
Continue to Implement Mercury Plan	D.27.b.					⇔	⇔	⇔	⇔	⇔	⇔	
Incorporate into the Mercury Strategy coordination with the countywide universal waste management strategy	D.27.b.i.					⇔	⇔	⇔	⇔	⇔	⇔	

⇔ Ongoing activity/task ♦ Deliverable or key milestone ❷ Effectiveness assessment activity (expected outcome level indicated)

Table 2.5-2

Regional Target Pollutant Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard (Target)	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other Notes
Evaluate and summarize 2004 and 2007 public awareness/opinion survey data related to mercury	D.27.b.ii.	✓	maintain resident awareness of mercury issues	surveys			♦❷					October 1, 2009
Provide recommendations for amending Permitees' mercury source control programs	D.27.b.ii.						♦					October 1, 2009
Evaluate total mercury and methylmercury data collected and continue urban discharge monitoring, described further in MRP	D.27.b.iii.a., MRP G. 2.						♦					October 1, 2009
Estimate amount of total mercury and sediment prevented from discharging to receiving waters by existing BMPs	D.27.b.iii.b., MRP G. 2. i.	✓	maintain level of total mercury and sediment prevented from discharging	quantification	October 1, 2009 load estimate		♦				♦❹	October 1, 2009 and March 15, 2013
Consider including monitoring in the design of future BMP studies to estimate the extent existing and new BMPs reduce (increase) total and methyl mercury discharges	D.27.b.iii.c. (MRP G.2.j)						♦					October 1, 2009
Implement monitoring described in MRP to support water quality based programs	D. 28.					⇔	⇔	⇔	⇔	⇔	⇔	
Effectiveness Evaluation												
Prepare Annual Report assessment of program effectiveness utilizing Monitoring Program data analysis						⇔	⇔	⇔	⇔	⇔	⇔	
Metals Control Strategies												
Participate on Copper Workgroup and support initiatives	Not required					⇔	⇔	⇔	⇔	⇔	⇔	
Participate in funding and supporting the Brake Pad Partnership	Not required					⇔	⇔	⇔	⇔	⇔	⇔	
Update the Metals Reduction strategy	Not required								⇔			
Pathogen Indicator Control Strategies												
Participate on Coliform/Pathogens Workgroup and support initiatives	Not required					⇔	⇔	⇔	⇔	⇔	⇔	
Update the Fecal Waste Reduction Strategy	Not required							⇔				
Other Target Pollutant Control Strategies												
Develop new target pollutant strategies	Not required					⇔	⇔	⇔	⇔	⇔	⇔	

Notes:

1. Performance standards achieve effectiveness outcome level 1 unless otherwise indicated

2. Assessing effectiveness of performance standards may be limited pending availability of baseline data

⇔ Ongoing activity/task ♦ Deliverable or key milestone ❷ Effectiveness assessment activity (expected outcome level indicated)

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2.6 Regional Public Outreach Program

2.6.1 Introduction

The Partnership conducts regional public outreach programs to educate the public about the harmful effects of stormwater pollution and to motivate people to prevent pollution; it also creates and promotes opportunities for public participation in creek and river stewardship projects. The ultimate purpose is to improve the quality of urban runoff and protect local creeks and rivers.

The outreach efforts target the following three main audiences in the urbanized portions of Sacramento County.

- *Public Outreach* - Broad public awareness campaigns serve as a first step in the continuum from education to a call-to-action, including, but not limited to, the groups listed below:
    - Homeowners and renters
    - Community and watershed groups
    - Public officials
- *School Outreach* - Through its work with schools, the Partnership empowers children to become environmental stewards by providing a basic understanding of the importance of water quality and explaining simple steps children can take to reduce stormwater pollution. The Partnership works with the following groups in order to teach the next generation about the importance of water quality and how to protect it:
    - School districts
    - Teachers
    - Students
- *Business/Industrial Outreach* - Outreach staff focus on mobile businesses that generate wastewater, and work with other element staff to address the following:
    - Fixed location Environmental Management Department (EMD) facilities
    - Non-EMD facilities
    - Developers/home builders
    - Engineer/design professionals
    - Contractors and subcontractors

The permit requires the permittees to ensure that the Regional Public Outreach Program uses appropriate media to measurably increase the knowledge of target communities regarding the impacts of urban runoff on receiving waters and to provide potential BMP solutions for the target audience that lead to behavioral change and reduce pollutant releases to the municipal storm drain systems and the environment.

Public outreach activities are coordinated with activities related to other program elements to ensure consistent and integrated messages. The Partnership maintains relationships with other groups and agencies to share ideas and experiences, and jointly implement outreach where mutually beneficial opportunities exist. Many of the Partnership's outreach activities are conducted regionally, as a collaborative effort among the permittees to prevent duplication, share resources and reach a broader segment of the population. In general, collaborative, county-wide efforts can be more cost-effective; however, in some cases, localized public outreach by individual permittees is more appropriate or cost-effective. This section describes both regional activities and individual activities.

2.6.2 Strategy

The Partnership's Regional Public Outreach Program strategy depends on the target audience.

The Partnership's outreach strategy for the general public is to:

- Use research such as public surveys and focus groups to identify what various segments of the public know, and don't know, about storm drains and stormwater pollution, and what actions they are and are not likely to take to prevent pollution.
- Prioritize activities based on needs identified in the public outreach research and through the Partnership's Target Pollutant Program.
- Identify target audiences and messages based on those priorities.
- Choose outreach methods that are most effective given the target audience and message content (e.g., television, radio, print materials and websites).
- Translate messages into languages other than English depending on the target audience.

The Partnership's outreach strategy for school children is to:

- Measure students' awareness of stormwater pollution through tests or quizzes and focus on priorities based on needs identified in tests or quizzes.
- Develop message content for selected age groups or grade levels.
- Choose outreach methods that are most effective for school children, for example:
    - Brochures and materials distributed during classroom presentations and assemblies
    - Website
    - Outreach events
    - Online interactive games
- Translate messages into languages other than English depending on the target audience.
- Provide technical support or educational resources to teachers.
- Develop stormwater educational content that meets state educational standards.
- Work with other agencies or organizations with similar messages to reach a wider student population.

The Partnership's outreach strategy for businesses is to:

- Target businesses that can cause stormwater pollution, but are not easily reached through the Regional Commercial/Industrial Program (Section 2.7), such as mobile businesses.

- Focus on priority industries/businesses based on those identified through the Regional Commercial/Industrial Program.
- Choose outreach methods that are most effective given the target business and message content.
- Explore incentives for businesses to join the Clean Water Business Partners (CWBP) program or other business recognition program. The CWBP program is described below in 2.6.3.
- Explore partnership opportunities with other agencies to help leverage business outreach activities.
- Translate messages into languages other than English depending on the target audience.

As previously mentioned, the Partnership seeks to maintain and establish partnerships with other groups in order to maximize resources and further the public outreach mission. The Partnership's strategy for establishing relationships with other groups includes:

- Identify other agencies and groups with similar missions and messages.
- Identify networking opportunities by attending regional conferences and workshops.
- Determine the most appropriate method to reach out to groups.
- Research private funding sources to fund long-term outreach efforts.
- Identify private retailers, businesses, or corporations that are looking for community involvement opportunities and stewardship roles.

2.6.3 Accomplishments to Date

Major Partnership accomplishments to date related to regional public outreach include:

- Developed and promoted a hotline for the public to report stormwater-related issues (e.g. clogged drains, illicit discharges/dumping, general stormwater questions and faded or missing drain inlet stencils).
- Developed and implemented a regional media campaign, including television, radio, billboards and other media. Throughout the 2002-2007 permit term, the Partnership far exceeded the annually required 2.3 million media impressions.
- Translated several brochures into Spanish and Russian to reach out to multicultural communities.
- Published a stormwater brochure designed for adults. This brochure describes steps residents can take in and around their homes to prevent urban runoff pollution. The brochure has a tear-out card for residents to request specific brochures (e.g. landscaping, paint, pool, etc.) and/or to receive a presentation by the Partnership.
- Coordinated with other agencies and organizations on outreach efforts, including the Sacramento Area Creeks Council (formerly known as the Sacramento Urban Creeks Council), Sacramento County Business Environmental Resource Council (BERC), Sacramento Regional County Sanitation District (SRCSD), Regional Water Authority (RWA), Bay Area Stormwater Management Agencies Association (BASMAA), and the Sacramento River Watershed Program (SRWP).

- Participated in community outreach events to educate the public on the impacts of stormwater pollution and how individuals play a role in protecting local waterways. Through experience, the Partnership learned which events draw the most people and are best suited for targeted audiences to maximize resources and efficiency.
- In partnership with the RWA, the Partnership awarded a contract to the South Yuba River Citizens League (SRYCL) to deliver school assembly presentations (using professional actors and comedians) about stormwater quality, watershed protection and water conservation.
- Several of the permittees sponsored SPLASH, a year long watershed education curriculum that will be discussed in detail under activities for the 2008-2013 permit-term.
- Participated in the statewide Our Water Our World (OWOW) program, which educates consumers (and trains retailers that sell to consumers) to manage home and garden pests in less-toxic ways. The OWOW program produces fact sheets and other outreach materials that provide customers with a list of products that are less-toxic.
- Collaborated with SRCSD and the University of California Cooperative Extension State Integrated Pest Management program, local Master Gardeners, and local nurseries on the Water Wise Pest Control (WWPC) program. The WWPC is an education program that provides information to residents on effective and less-toxic methods of handling pests and encourages the proper use, storage and disposal of pesticides.
- Established the CWBP program in 1998 to educate businesses about appropriate best management practices (BMPs) and provide an incentive for businesses to protect stormwater quality and pass along stormwater and urban runoff information to their customers.
- Conducted two rounds of business outreach mailings (over 8,000 pieces of mail each round) to eleven high priority business categories identified in the 2002 Stormwater Permit. The Partnership developed (and continues to update quarterly) a database of businesses based on phone book yellow page ads and business license information from local jurisdictions. BERC assists the Partnership with updates to the database.
- Developed the *River-Friendly Landscape Guidelines: Sustainable Practices for the Landscape Professional* publication to aid landscape professionals in the protection and conservation of Sacramento's waterways and in the reuse and reduction of plant debris, and to support an integrated approach to environmentally-friendly landscaping. In addition, the Partnership developed the *Choosing a Landscape Professional for Your River-Friendly Garden* to help residents find a landscape professional who practices River-Friendly landscaping. The Partnership has received numerous requests for both publications.

2.6.4 Research Conducted During 2002-2007 Permit Term

To effectively plan the next steps in its ongoing outreach efforts, the Partnership conducted qualitative and quantitative research through public awareness surveys and focus group sessions to analyze current public awareness and identify areas for improvement for the 2008-13 permit term.

Prior to the 2002-2007 permit term, the permittees used separate public awareness and behavior surveys focused on particular jurisdictions. During the 2002-2007 permit term, the Partnership conducted a regional combined survey for consistency. Some historical trending data was lost; however, the new format allowed for better regional program development. All future surveys will be conducted on a regional basis to maximize outreach programs and effectiveness.

To supplement survey findings, the Partnership conducted five focus group sessions. Two sessions targeted the Hispanic and Slavic communities and the remaining three involved the general public. Focus groups provided additional insight and richer data regarding current views and the public's willingness to play an active role in preventing urban runoff pollution.

The following major research findings from the regional survey and focus group sessions will be considered and used as a guide to develop and implement future outreach efforts:

- There is still a lack of awareness among some audiences (particularly non-English speakers) regarding stormwater and urban runoff pollution. Information translation and dissemination appear to be the major issues. Traditional media outlets do not reach very far into some of the more insular communities, especially the Slavic and Asian populations, where distrust of government is still prevalent. Also, many of these populations view local waterways as 'pristine' compared to the countries from which they immigrated.
- One in five respondents gave an incorrect answer when asked where they thought everything that goes into the gutters finally ends up.
- Respondents think that government, rather than residents, is most responsible for preventing water pollution.
- Residents are more likely to participate in environmentally-friendly activities if there is a personal incentive.
- Pet waste and fluorescent lights were identified as materials most likely to be disposed of improperly.
- Television and signage (i.e., storm drain signs and creek signs) are best for conveying basic messages, but internet and telephone information lines are the best source for more detailed information.

2.6.5 Regional Public Outreach Activities

This section describes the Partnership's regional outreach activities for the 2008-13 permit term. Section 2.6.6 describes additional locally-focused activities conducted by the individual permittees.

Stormwater Permit Requirements

The Stormwater Permit requires that permittees implement a public outreach program using appropriate media to measurably increase the knowledge of target communities regarding municipal storm drain systems, impacts of urban runoff on receiving waters and potential BMP solutions for the target audience; and to change behavior of target communities and thereby reduce pollutant releases to storm drain systems and the environment. The permit also requires that the effectiveness of the Regional Public Outreach Program be assessed to identify any necessary modifications. The current permit requirements pertaining to public outreach are not substantially different from those in the prior permit.

Overview of Proposed Activities

Table 2.6-2, Regional Public Outreach Program Activities Work Plan (2008-2013) summarizes the activities that will be conducted under the Regional Public Outreach Program during the 2008-13 permit term. The proposed activities build on the work already accomplished during the first 17 years of the Program, and many activities are continuing. This table presents planned activities, associated performance standards and effectiveness assessment methods, as well as a five-year implementation schedule. The following describes the major activities in more detail:

Public Participation

The Partnership will continue to encourage the public to volunteer or participate in organized community stewardship activities to minimize stormwater pollution. These activities benefit neighborhoods and watersheds in the Sacramento area.

Specifically, the Partnership will:

- Engage the public in cleaning up creeks. The Partnership supports County-wide and neighborhood creek cleanups such as Creek Week.
- Continue various pet waste reduction programs. One such innovative program is “Scoop the Poop” that encourages the public to volunteer in community-based stewardship pet waste reduction. Originally started as a County program, the “Scoop the Poop” program aims at reducing improper disposal of pet waste in parks. The agency works with local park districts and volunteer groups to install pet waste stations at designated locations. Individuals can either leave their plastic grocery bags at the pet waste bag stations for others or take a bag to use for picking up and disposing of pet waste. The program is cost-effective, reduces pet waste discharges and gives neighborhood residents a sense of making a difference in the community.
- Encourage the public to participate in watershed management groups. The Partnership coordinates with several watershed and environmental advocacy groups in the Sacramento region (see Table 2.6-1 for details).

Table 2.6-1
Established Watershed and Environmental Advocacy Groups in the Sacramento Area

Organization	Description	Affected Permittees
Alder Creek Watershed Group	The City of Folsom initiated the Alder Creek Watershed Project in 2007 with funding provided by a CALFED/State Department of Water Resources Grant (Proposition 50). The project will characterize biological, hydrologic, and geomorphic conditions in the 11-square mile watershed and prepare a watershed management plan to protect the creek and its resources as development occurs over the next 10 to 20 years. A stakeholder group guides these efforts. See the City of Folsom's website for additional information: *http://www.folsom.ca.us/depts/public_works/stormwater*	City of Folsom, County of Sacramento
Amador/Dry Creek Watershed Council (ADCWC)	Dry Creek originates in Amador County in the foothills of Central Sierra, flowing between the Mokelumne and Cosumnes Rivers and through the city of Galt to the Cosumnes River before merging with the Mokelumne near the Cosumnes River Preserve, and then into the lower San Joaquin River. Established in 2005 through a CALFED/State Department of Water Resources Grant (Proposition 50) the ADCWC assists watershed residents with project implementation, capacity building, watershed awareness and education, and sustainability of the volunteer program in the 388 square mile watershed. The Council's long-term goal is to conduct an assessment and inventory, and complete and implement a watershed plan. See the Water Board's website for more information. *www.waterboards.ca.gov/water_issues/programs/grants_loans/project_summaries/docs/**d**rycreek_watershed.doc*	County of Sacramento, City of Galt
American Basin Council of Watersheds	The American Basin Council of Watersheds (ABCW) evolved from three separate watershed groups with interests in western Placer County, including the Dry Creek Watershed Council, the Auburn Ravine/Coon Creek Watershed Group, and the Pleasant Grove/Curry Creek Watershed Group. In recent years, partner projects for ABCW included water quality monitoring, stream bank stabilization, habitat restoration, flood control, erosion control, invasive weed removal and public outreach. Dry Creek Conservancy, the non-profit group which coordinates ABCW, facilitates watershed conservation, restoration, and education in the watersheds of Dry Creek, Pleasant Grove Creek, Auburn Ravine Creek, Coon Creek and surrounding areas in Placer, Sutter, and Sacramento counties. The goal is to preserve, protect, and restore the resources of the 100-square-mile Dry Creek Watershed, and to promote a continuous trail and open space greenway, connecting with the American River Parkway at Discovery Park and Folsom Lake, forming a 70-mile loop. For more information visit: *http://www.drycreekconservancy.org* and *http://placercountyrcd.org/group/americanbasin/*	County of Sacramento

Organization	Description	Affected Permittees
American River Parkway Foundation and American River Watershed Group	The American River Parkway Foundation is a non profit agency with a goal to care for the 23- miles of the American River's shoreline between the Natomas Fish Hatchery and the confluence with the Sacramento River. The group's mission is to foster environmental stewardship, facilitate volunteer opportunities and fund projects and programs on the American River Parkway that support the preservation, protection, enhancement and appreciation of the parkway natural resources. The American River Watershed Group (ARWG) was founded in 1996 with interests centered on five themes: 1) safety of life, property, and resources; 2) healthy forests; 3) abundant and high quality water; 4) sustainable economics; 5) and education. ARWG succeeded in knitting together the agency, business, education, non-profit and citizen communities. Several members of the Partnership support ARWG's collaborative efforts by attending outreach events and partner in programs such as the *Pups in the Parkway* Program. For more information visit: *http://www.theamericanriver.com*	County of Sacramento, and the cities of Citrus Heights, Rancho Cordova, and Sacramento,
Arcade Creek Watershed Group	The Arcade Creek Watershed Group formed in 2002, with initial support from the City of Sacramento, EPA and CALFED, and major funding through a Prop 50 CALFED watershed grant. Watershed Group members include local residents, environmental organizations, representatives from the cities of Sacramento and Citrus Heights, the County of Sacramento, and other interested stakeholders. The mission is to improve water quality, reduce flood damage, enhance habitat, increase recreational opportunities, and encourage local participation in protection efforts for the 38-square mile watershed. The watershed group identifies and prioritizes projects that restore, improve, and/or preserve habitat; enhance water quality; improve flood control; and increase recreational opportunities. See Arcade Creek Watershed's website for more information at *http://www.arcadecreek.org/*	City of Sacramento, County of Sacramento, City of Citrus Height
Laguna Creek Watershed Council	The Laguna Creek Watershed Council (LCWC) is a grass-roots nonprofit organization founded in 2002 and incorporated in 2009. Their mission is to protect and restore the many benefits Laguna Creek and neighboring waterways provide, including flood risk reduction, fish and wildlife habitat, recreational opportunities, and open space. They accomplish this mission by working cooperatively with all stakeholders in the watershed. In 2005, the LCWC received a CALFED Grant (Proposition 50) to conduct a watershed assessment, prepare a watershed management action plan, engage the schools, and implement several watershed stewardship projects. Sacramento County managed and administered the grant on behalf of the LCWC. Various local agencies provided in-kind services, notably the City of Elk Grove and the two parks districts. For more information about the many accomplishments and activities of the LCWC, including their watershed management plan, visit the website: *http://www.lagunacreek.org*.	County of Sacramento, and cities of Elk Grove, Rancho Cordova and Sacramento

Organization	Description	Affected Permittees
Sacramento River Watershed Program	Founded in 1996, the Sacramento River Watershed Program (SRWP) is a California Not-for-profit corporation that received 501(c) (3) status in 2003. It serves as an umbrella agency bringing together environmental organizations, agencies, private businesses and agricultural interests, and universities to share information and resources that address water-related issues within the Sacramento River watershed. The SRWP functions through several committees and workgroups that support local and regional public education, monitoring, and watershed management. Partnership's interests are supported in each committee and working group. For more information, visit *http://www.srwp.org/*	County of Sacramento and the City of Sacramento
Sloughhouse Resource Conservation District	The Sloughhouse Resource Conservation District (RCD) has been working to protect watershed health in its 80,000 acre service area portion of the Cosumnes River watershed for over ten years. After the flood of 1997, the RCD formed the Cosumnes River Task Force, which has since completed two watershed assessments and released a management plan based on those assessments (available at www.cosumneswatershed.org). Through various grants, donations, and volunteer efforts, the RCD has accomplished watershed education, workshops for agriculturists, created conservation plans for over 15 local agricultural operations, monitored water quality, participated in local planning efforts, and conducted watershed tours. For more information, visit www.cosumneswatershed.org	County of Sacramento, City of Elk Grove
Stone Lakes National Wildlife Refuge Association	In 1994, the U.S. Fish & Wildlife Service (Service) established the 18,200-acre Stone Lakes NWR in Elk Grove, Sacramento County, California. Stone Lakes National Wildlife Refuge Association is a nonprofit corporation dedicated to the preservation, protection, enhancement, and promotion of the NWR and its efforts to provide a unique wildlife viewing experience for the enjoyment and educational benefit of the public while protecting and restoring critical habitat for special interest and endangered plant and animal species dependent upon the Pacific Flyway, the Sacramento-San Joaquin Delta, and the Central Valley's complex web of permanent and seasonal wetlands, riparian forests, oak woodlands, and annual grasslands. All storm water run-off and drainage from the communities of West Laguna, Lakeside, the Stone Lake development, East Franklin Plan, and Laguna Ridge in Elk Grove either currently flows to the Refuge or will when construction is completed. For more information, visit *http://www.stonelakes.org/*	County of Sacramento, City of Elk Grove
Upper Laguna Creek Collaborative	In June 2003, the Upper Laguna Creek Collaborative (ULCC) began planning for anticipated future growth on a watershed scale by exploring ways to create a multi-functional corridor along Upper Laguna Creek. Using an open, inclusive approach to planning, the ULCC seeks representation from all parties that affect or are affected by development in this watershed. Interested government agencies, special districts, environmental groups, and landowners participate in the ULCC process. The Collaboratives' goal is to create a multi-functional corridor along Upper Laguna Creek that preserves the surrounding stream habitat, manages stormwater from new development, and provides an easement for future sewer infrastructure. For more information, visit *http://upperlagunacreek.org/*	County of Sacramento, and cities of Rancho Cordova and Elk Grove

Hotline

The Partnership will continue to promote the use of the 24-hour public education and illicit discharge reporting hotline (916-808-4H20) through brochures, television ads, websites and print advertising.

Public Outreach Implementation

The Partnership will continue to educate the general public in the Sacramento area about the harmful effects of stormwater pollution and promote behavioral change through a variety of methods and strategies:

- Update and implement the public outreach strategy plan to account for changes in public awareness and behavior based on survey results and other research data.
- Continue to develop educational/informational materials. The Partnership will determine the need for new or updated materials through a variety of ways, such as feedback from the permittees, surveys of participants at public events and follow-up requests for materials from schools and the regulated community. The messages featured on the materials will supplement and be consistent with messages being spread through all other outreach efforts. In addition, advertisements and brochures will direct audiences to a new and improved Partnership website for more information.
- Implement a targeted, "problem/solution-oriented" mixed media campaign (e.g., radio, print ads, television and signage). The approach will focus on specific messages (e.g., pesticide use, home auto repair, pet waste, etc.) and will include strong visuals and targeted messages that emphasize personal responsibility for preventing stormwater pollution and protecting local waterways. Many of these specific messages will be conveyed through radio, print ads, television and signage.
- Implement educational programs that focus on specific target pollutants or activities. These programs include:
    - Fundraiser carwash discharges: The Partnership will implement a strategy to address fundraiser carwash discharges. The Partnership will educate those who hold carwashes and the general public about stormwater regulations and the impacts of fundraiser carwashes on stormwater quality. In addition, the Partnership will encourage the public to use discharge methods that eliminate the impacts of these events.
    - Home and Garden Care (pesticides and fertilizers): The Partnership encourages residents to consider alternative less-toxic strategies for specific pests. The Partnership supports IPM programs such as OWOW, River Friendly Landscaping, and/or WWPC.
        - WWPC: The WWPC is collaboration between the Partnership, SRCSD, University of California Cooperative Extension State Integrated Pest Management program, local Master Gardeners and local nurseries. The WWPC is an education program that provides outreach materials such as fact sheets and utility bill inserts to residents on effective and less-toxic methods of handling pests and encourages the proper use, storage, and disposal of pesticides. The UC Master Gardeners host several dozen IPM seminars throughout the community each year and distributed materials to many thousands of visitors to the annual California State Fair at Cal Expo.

        - OWOW: This program provides point-of-sale information to consumers on how to manage home and garden pests using less toxic methods. In addition, fact sheets that provide integrated pest management are displayed in participating stores and distributed during outreach events. The program provides training for professional staff about IPM principles, successful application strategies and sales techniques for less-toxic products.
        - River-Friendly Landscaping Guidelines: The River-Friendly landscaping guidelines are a holistic approach to the design, construction and maintenance of landscapes to support the integrity of the Sacramento River Watershed. The guidelines provide direction on water and energy conservation, green waste reduction and pollution prevention. The principles are promoted through brochures and workshops.
    - Household Hazardous Waste: The Partnership provides information on proper household hazardous waste disposal and waste collection centers in outreach materials and on the website. Detailed reporting of specific household hazardous waste materials is reported in the Illicit Discharge Element.
    - Pet Waste: The Partnership will encourage the public to properly dispose of pet waste at public outreach events and through its multicultural, mixed media campaign, in addition to the "Scoop the Poop" public participation program.
- The Partnership will maintain existing public-public and public-private relationships and explore opportunities to maximize resources, send consistent messages and further the public outreach mission. Existing and potential new partnerships include those with:
    - Private retailers
    - Non-profit and neighborhood organizations and associations and environmental groups (includes groups that coordinate community outreach events with Partnership support)
    - Multicultural organizations
    - Educational institutions
- Continue to support community outreach events
- Continue to conduct public opinion surveys to gauge the level of awareness and behavior change within a target audience, and to determine if activities or outreach efforts are effective in conveying stormwater messages. The surveys will be measured against previous surveys to compare results and examine awareness and behavior change. The Partnership will consider other methods, such as cellular phone-based and Internet-based, to achieve statistically valid results. Also, the Partnership will conduct 'executive interviews' to gain qualitative data from multi-cultural groups historically difficult to reach using traditional survey techniques.

Public School Education

The Partnership will educate and promote behavioral change in school children by continuing to:

- Implement science-based educational programs such as Splash and/or the interactive school classroom presentations.
    - Splash provides a year-long curriculum for students to explore the diversity of life in our local creeks, vernal pools and lakes, both in the classroom and in the field. By studying the organisms that inhabit our local aquatic ecosystems, students gain awareness of water quality and watershed issues. Splash provides an assessment quiz to students and uses the results to measure awareness levels.

    - Interactive school classroom presentations stress the importance of stormwater quality, watersheds protection, and water conservation. This school program provides a survey questionnaire to teachers at the conclusion of presentations and uses the results to determine if the program should be improved.
- Provide schools with educational materials (e.g. brochures, activity books, online interactive games etc.) and resources.

Business Outreach

The Partnership will continue to provide outreach to businesses to increase awareness of stormwater pollution and regulations, educate business owners and operators about adequate Best Management Practice (BMPs) and encourage environmental stewardship. The business outreach conducted as part of the Regional Public Outreach Program will continue to focus on mobile businesses that generate waste water and are not easily reached by the Regional Commercial/Industrial Program (section 2.7).

Specifically, the Partnership will:

- Work with businesses and industries to encourage pollution prevention through programs such as the Clean Water Business Partner program that to-date has targeted mobile carpet cleaning companies and pressure washers. However, the program will be re-evaluated for effectiveness and efficiency. Changes to the program will be reported in annual reports and annual work plans. The Partnership aims to create a public demand for CWBP businesses to motivate more business participation, and increase the customer base for program participation.
- Work with the commercial/industrial elements to maintain the upkeep of the business outreach database. For additional information, please see section 2.7 Regional Commercial/Industrial Program.
- Conduct outreach to priority industries in the database twice during the permit term. For additional information, see section 2.7, Regional Commercial/Industrial Program.
- Continue to develop and distribute educational materials to businesses with languages other than English.
- Work with the River-Friendly Landscaping Coalition, a collaboration of public agencies, non-profit organizations, designers, private landscape architects and contractors to encourage landscape professionals to follow the *River-Friendly Landscaping Guidelines*. The guidelines promote a holistic approach to the design, construction and maintenance of landscapes that support the integrity of the Sacramento River watershed.
- Continue to work with local businesses and train their staff to promote IPM programs (described in Public Outreach Implementation, above).

Watershed Stewardship

Various permittees in the Partnership will continue to support and work with established watershed and environmental advocacy groups in their jurisdictions to assess conditions and develop and implement regional solutions to urban runoff and water quality problems in the Sacramento area watersheds. The goal is to protect and enhance water quality and beneficial uses in local creeks and rivers and to encourage watershed residents and other stakeholders to actively participate in watershed stewardship. Figure 1.2-2 in Chapter 1 is a map showing the locations of the various watersheds with respect to the permit area and the permittees' jurisdictional boundaries. Table 2.6-1 summarizes the active watershed and environmental advocacy groups in the Sacramento permit area and the permittees working with these groups. Additional details about permittee-specific activities are provided in the next section.

2.6.6 Individual Permittee Public Outreach Activities

Each permittee conducts its own outreach and education activities within its jurisdiction in addition to the regional activities outlined above. The following describes permittee-specific activities:

County of Sacramento (these activities reach or benefit audiences in the unincorporated County and the cities of Citrus Heights and Rancho Cordova unless otherwise noted):

- The County will continue to collaborate with SRCSD's *Be Mercury Free* program to promote proper disposal of fluorescent light bulbs. This comprehensive effort educates Sacramento residents and businesses about the sources and effects of mercury and how to reduce the amount of mercury entering the Sacramento River watershed. The program staffs a booth at several local community events and disseminates utility bill inserts to residents.
- The County plans to install new signs discouraging illegal dumping along creeks and parkways ("No dumping" and "Respect, protect, and enjoy our creeks and rivers" signs) in areas where recurring problems are observed. This work will be coordinated with Sacramento County Regional Parks and the County Department of Transportation.
- The County will continue to financially support community outreach events such as Creek Week and Earth Day to further educate the public about water quality and the importance of preserving our creeks and rivers.
- The County will continue to promote programs that educate students about the importance of preserving, protecting, and enhancing local waterways. Examples of these programs include:
    - The Effie Yeaw Nature Center that provides interpretive environmental and water-based educational programs to increase awareness of pollution prevention, water conservation and watershed issues. The various programs offered at the Effie Yeaw Nature Center are designed to lead children to make appropriate choices in their own lives that will help improve water quality and protect the ecosystem. These programs include in-class presentations, hands-on activities and field trips that provide a basic understanding of how our choices can impact water quality in local creeks and how water quality is linked to overall environmental problems.
    - The Watershed Educational Grant program provides financial assistance to schools to fund projects that educate students and the public about the importance of preserving, protecting, and enhancing local waterways. Past recipients have used the funds for creek and river clean up activities, field trips to nature centers and environmental facilities, water-quality testing projects and planting native vegetation in creek areas.

- The County will continue to financially support programs designed to reduce the improper disposal of pet waste in local parks and on trails (e.g., the American River Parkway Foundation's 'Pups on the Parkway' program that involves the installation of pet waste bag dispenser stations along the American River Parkway).

- County staff will continue to support established watershed programs. Support services may include: reviewing and commenting on work products, providing advice and assistance as requested, and attending meetings and events hosted by the watershed councils and groups (described in Table 2.6-1). The County will work with Resource Conservation Districts and others to educate and promote watershed stewardship and pollution prevention in rural County areas.

- The County will assist in identifying and pursuing grant funding for watershed stewardship work, including providing in-kind services.

City of Sacramento:

- The City of Sacramento (Sacramento City) will continue to financially support community outreach events such as Creek Week and Earth Day to further educate the public about water quality and the importance of preserving our creeks and rivers.
- Sacramento City will continue to award Community Action Grants to schools, environmental organizations, and other groups for projects whose goal is to improve the quality of local creeks, rivers and watersheds within Sacramento City. Projects include physical improvements to a water body, education and outreach, or a combination of both.
- Sacramento City will continue to fund Splash in the Class, now in its tenth year of offering a classroom presentation on stormwater pollution to elementary schools throughout Sacramento. Nearly 2,500 students annually participate in the presentation.
- Sacramento City staff will continue to review and comment on work products, provide advice and assistance as requested, and attend meetings and events hosted by the watershed councils and groups, as described in Table 2.6-1.

- Sacramento City will remain active with the Sacramento River Watershed Program (SRWP), including serving on the Board of Trustees; to promote SRWP activities throughout the Sacramento River watershed.

City of Citrus Heights:

Refer to the Citrus Heights SQIP (Section 5.7) for additional outreach activities conducted by the City of Citrus Heights.

Elk Grove:

Refer to the Elk Grove SQIP (Section 6.7) for additional outreach activities conducted by the City of Elk Grove.

Folsom:

Refer to the Folsom SQIP (Section 7.7) for additional outreach activities conducted by the City of Folsom.

Galt:

Refer to the Galt SQIP (Section 8.7) for additional outreach activities conducted by the City of Galt.

Rancho Cordova

Refer to the Rancho Cordova SQIP (Section 9.7) for additional outreach activities conducted by the City of Rancho Cordova.

2.6.7 Effectiveness Assessment

The Permittees' general approach to assessing the effectiveness of its stormwater programs is described in Section 2.3, Program Effectiveness. This section specifically describes assessment activities relevant to the Regional Public Outreach Program, including proposed methods for evaluating effectiveness during the 2008–13 permit term. Activities from the 2002-2007 permit term were evaluated to identify modifications necessary to demonstrate effectiveness and baseline data requirements for 2008-2013 permit term activities.

The Regional Public Outreach Activities Work Plan (Table 2.6-2) presents effectiveness assessment information for this program. Each performance standard associated with an activity has an anticipated effectiveness outcome level of between one and six, as described in Section 2.3. An outcome level of one is assumed for each performance standard, unless otherwise indicated. Table 2.6-2 shows the years in which focused assessments will be conducted to determine if higher outcome levels have been attained.

The Partnership will compile and evaluate data to demonstrate changes in awareness and behavior (Outcome Levels 2 and 3), where possible, to assess the effectiveness of its outreach from surveys and focus groups, direct interaction at public events, feedback from children and teachers and other media as opportunities arise. This data will be evaluated to identify potential programmatic enhancement opportunities. Assessing effectiveness of performance standards may be limited pending availability of baseline data.

The Partnership selected key indicators for public outreach which are specific, measurable and achievable and show progress toward meeting the element goal. Table 2.6-2 identifies key indicators used to assess the effectiveness of individual permittee programs and those of the partnership as a whole in the Long-Term Effectiveness Assessment (LTEA) required by the stormwater permit. Changes or refinements in public outreach activities may result from this assessment.

2.6.8 Relationship to Other Program Elements

The staff who manage the Partnership's public outreach efforts coordinate with staff implementing other program element activities to ensure accurate and consistent messaging for all the target audiences. Whenever possible, multiple messages are conveyed in a single integrated product such as a brochure or activity such as a classroom presentation. The following summarizes the regional public outreach associated with the other elements.

Construction Element

As part of the construction element, the Partnership provides outreach to contractors and permittee inspection personnel, primarily through training workshops, informational brochures and guidance manuals. A secondary audience is the do-it-yourselfer, whose activities are typically targeted through general outreach. Do-it-yourselfers have access to brochures that explain proper use and disposal of materials typically used in home construction projects.

Commercial/Industrial Element

Outreach associated with this element increases awareness of stormwater pollution and regulations, educates business owners and operators about adequate BMPs, and encourages environmental stewardship. The Partnership outreaches to businesses (e.g., the CWBP program, BERC, industrial inspections and enforcement actions) conducted by individual permittees, industry-specific workshops, seminars and direct mailings. Industry-specific brochures include information on auto body, auto repair, commercial auto washing and detailing and landscaping. The Partnership translated and printed several of these brochures into Spanish and Russian.

Illicit Discharge Element

In addition to the existing County of Sacramento hotline (875-RAIN), the Partnership established a permittee-wide hotline (808-4H20) for the public to get general stormwater information, report stormwater-related problems or file complaints (e.g., clogged drains, illicit discharges/dumping, faded or missing drain inlet stencils, etc.). The hotline number is printed on every educational piece produced by the permittees (i.e., billboards, brochures, and utility bill inserts).

New Development Element

New development projects must incorporate control measures that reduce pollutants in project runoff to the maximum extent practicable. The development community, including developers, property owners, planners, engineers, design professionals (landscape architects) and environmental consultants, must understand how to design projects to comply with stormwater quality requirements. The Partnership educates the development community about design approaches and requirements primarily through technical guidance manuals and workshops, coordinated with local organizations such as the Building Industry Association (BIA) and Civil Engineers and Land Surveyors of California (CELSOC) to the extent possible.

2.6.9 Coordination with Other Agencies and Groups

The Partnership coordinates with other agencies and groups to jointly implement outreach, share ideas and experience, and/or promote consistent messages. The following are some of the groups with which the Partnership works:

- SRCSD: Sacramento City and County of Sacramento coordinate with SRCSD on several educational and outreach activities (e.g., Splash, OWOW, WWPC) to ensure that consistent messages related to stormwater pollution prevention are delivered to Sacramento residents.
- The Sacramento Area Creeks Council: The County and City of Sacramento participate and support the Council's annual *Creek Week Splash-Off* and *Creek Week* events each year, serve on the organizing committee, provide supplies and equipment for refuse collection at cleanup sites, assist with event publicity and provide educational booths.
- Business Environmental Resource Center (BERC): BERC is a non-regulatory assistance center that provides confidential assistance to help Sacramento County businesses understand and comply with federal, state and local environmental regulations. The Partnership works with BERC to provide workshops for target industries and disseminate outreach materials via BERC's on-site inspections. Because BERC offers confidential, non-regulatory assistance, businesses that would not contact a regulatory agency for fear of reprisal still can receive much needed assistance.
- SRWP: The Partnership partners with SRWP to conduct school outreach and participates in local meetings to discuss the state of the watershed.

- River-Friendly Landscaping (RFL) Coalition: The Partnership is an active member of the Coalition. The Coalition is a wide-range group of local agencies and organizations that supports the River-Friendly Landscaping guidelines and provides individuals, businesses and institutions access to information, resources and ideas so that landscapes are designed, built and maintained according to the sustainable practices of the River-Friendly Landscaping principles.
- California Stormwater Quality Association (CASQA): Partnership staff participates at all levels of CASQA, including the Public Information and Public Participation (PIPP) committee. The PIPP shares information regarding successful outreach campaigns from around the State and country and offers assistance to Phase II NPDES communities.
- Watershed Councils and Groups: Various permittees in the Partnership support and work with established watershed groups in their jurisdictions to develop and implement regional solutions to stormwater pollution problems in the Sacramento area watersheds, as described previously in this section.

Table 2.6-2

Regional Public Outreach Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard/Target	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other
Public Participation												
Participate in clean up events	12.ai.,bi.c.		Engage the public in cleaning up creeks	Tabulation- track number of volunteers per year	Baseline data will be FY08/09 number of volunteers	⇔	⇔	⇔	⇔	⇔	⇔	
		✓	Remove trash and debris from waterways	Quantification- quantify the amount of trash and debris removed	Baseline data will be FY08/09 quantity of trash and debris removed	⇔	⇔❹	⇔❹	⇔❹	⇔❹	⇔❹	
Implement pet waste reduction programs such as "Scoop the Poop"	12.ai., aiv., bi., biv., c.		Increase number of stations installed	Tabulation-track number of station installations	Number of stations	⇔	⇔	⇔	⇔	⇔	⇔	
			Engage the public to install stations that encourage proper pet waste disposal	Tabulation-track number of volunteers	Previous year's Annual Report	⇔	⇔	⇔	⇔	⇔	⇔	
Encourage the public to participate in watershed management groups	12.ai.,bi.,c.		Document participating watershed management groups	Tabulation - track number of groups	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Hotline												
Maintain hotline number for illicit discharges	12.aii,bii.		Continue to promote the use of the hotline	Tabulation-track number of calls received	Number of calls received in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
Public Outreach Implementation												
Update the public outreach strategy to account for changes in public awareness and behavior based on survey results	12.aiii, biii.		Identify areas in the public outreach strategy that need improvement or modification	Confirmation- identify what modifications were made during the update	NA		⇔	⇔	⇔	⇔	⇔	
Continue to develop and distribute brochures and promotional materials, including translating materials in languages other than English	12.aii., biii.		Document/quantify materials distributed	Tabulation-track number of materials distributed	Number of materials distributed in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
			Document/quantify materials developed	Confirmation- identify new materials developed	Previous year's Annual Report	⇔	⇔	⇔	⇔	⇔	⇔	
Conduct a mixed media campaign (e.g., radio, print ads, television, signage, etc.)	12.aiii., biii.		Document/quantify impressions made	Tabulation-track number of impressions made	Number of impressions made in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
Implement a program that addresses fundraiser carwash discharges	12.ai.,aiv., bi., biv., c.	✓	Increase awareness on the impact of fundraiser carwash discharges in waterways	Tabulation-track number of visitors on River-Friendly Fundraiser Carwash website	Baseline data will be FY08/09 number of visitors to the River-Friendly fundraiser carwash website	⇔	⇔❷	⇔❷	⇔❷	⇔❷	⇔❷	
		✓	Increase number of River-Friendly Carwashes	Tabulation-track number of River-Friendly Carwashes	Baseline data will be FY09/10 number of River-Friendly Carwashes	⇔	⇔	⇔❸	⇔❸	⇔❸	⇔❸	
Implement home and garden care programs, including the distribution of educational materials (e.g., Our Water Our World, Waterwise, and River-Friendly Landscaping)	12.aiii., biii.	✓	Reduction in pesticide use and increase public's use of alternative home and garden care.	Survey- identify change in awareness/behavior levels	Previous term's surveys	⇔	⇔	⇔	⇔❸	⇔	⇔	

⇔ Ongoing activity/task ◆ Deliverable or key milestone ❷ Effectiveness assessment activity (expected outcome level indicated)

Table 2.6-2

Regional Public Outreach Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard/Target	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other
Provide information on proper disposal of Household Hazardous Waste *(refer to Permittee-specific Illicit Discharge Element for additional information)*												
Continue to promote proper disposal of pet waste through the multicultural, mixed media outreach campaign.	12.aiii., biii.		Document/quantify impressions made and materials distributed	Tabulation - track number of impressions made and materials distributed	Previous year's data	⇔	⇔	⇔	⇔	⇔	⇔	
Continue Public-Public and Public-Private Partnerships with other governmental agencies or special districts (i.e., River-Friendly Landscaping) and private businesses (e.g. pet stores, nurseries, zoo, educational institutions, River-Friendly Carwash Program, etc.)	12.aiii., biii.		Maximize the sharing of resources and reach a wider population in the Sacramento region	Confirmation-identify coordination efforts	Previous year's Annual Report	⇔	⇔	⇔	⇔	⇔	⇔	
Support community outreach events	12.aiii.,biii.		Continue to promote public participation in community outreach events	Tabulation- track number of events the program promoted	Number of events attended in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
Conduct Public Opinion Surveys to identify changes in awareness and behavior	12.aiii.	✓	Increase in awareness and behavior changes through mixed media campaigns and outreach materials	Survey- identify change in awareness/behavior levels	Previous term's surveys		⇔❸		⇔❸		⇔❸	
Public School Education												
Provide schools with educational materials or resources such as the following programs:	12.aiv., biv.											
Continue to support Splash		✓	Continue to financially support Splash and increase awareness of stormwater issues among students	Tabulation-track number of students participating in program / Survey-identify awareness through short quiz	Number of students participating in previous years and survey results.	⇔	⇔❷	⇔❷	⇔❷	⇔❷	⇔❷	
Conduct classroom presentations		✓	Document number of school presentations conducted and increased awareness of stormwater issues among students	Tabulation-track number of students participating in program / Survey evaluate program for effectiveness based on teacher feedback	Number of students participating in previous years and 09/10 survey results.	⇔	⇔	⇔❷	⇔❷	⇔❷	⇔❷	
Business Outreach												
Work with businesses and industries to encourage pollution prevention through programs such as the Clean Water Business Partner program.	12av., bv.	✓	Increase number of businesses and industries participating in CWBP program	Tabulation- track number of businesses participating in program	Total number of businesses participating in previous years	⇔	⇔	⇔❸	⇔❸	⇔❸	⇔❸	
Maintain upkeep of business outreach database *(refer to section 2.7 Regional Commercial/Industrial Program)*												
Conduct outreach to businesses in database twice during permit term. *(refer to section 2.7 Regional Commercial/Industrial Program)*												

⇔ Ongoing activity/task ◆ Deliverable or key milestone ❷ Effectiveness assessment activity (expected outcome level indicated)

Table 2.6-2

Regional Public Outreach Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard/Target	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other
Continue to develop and distribute educational materials to businesses with languages other than English.	12av., bv.		Document/quantify materials distributed	Tabulation-track number of materials distributed	Number of materials distributed in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
			Document/quantify materials developed	Confirmation- identify new materials developed	Number of materials distributed in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
Work with landscape professionals to encourage the use of River-Friendly Landscaping guidelines	12av., bv.		Document/quantify materials distributed	Tabulation-track number of River-Friendly Landscaping publications distributed	Number of materials distributed in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
Maintain partner participation of nurseries and retail outlets and training of their staff to promote pesticide reduction programs (e.g.,OWOW)	12av., bv.	✓	Increase awareness of stormwater issues among staff	Tabulation-track number of stores participating and number of staff trained (OWOW) / Survey- conduct surveys of store staff to identify changes in awareness	Compare to previous surveys beginning in FY09/10	⇔	⇔❷	⇔❷	⇔❷	⇔❷	⇔❷	
Sacramento County Agency-specific Activities												
Continue to coordinate with SRCSD on distributing 'Be Mercury Free' Program materials	12.ai., aiii., 12.bi., biii.		Document/quantify materials distributed	Tabulation-track number of materials distributed	Number of materials distributed in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
Continue to coordinate with County Department of Transportation to identify new potential sites that need signs discouraging illegal dumping ("Respect, protect, and enjoy our creeks and rivers" signs)	12.aiii., biii.		Identify new potential sites	Confirmation- identify new site locations	Previous year's data		♦					
			Document new sign installations	Tabulation - track number of signs installed	Previous year's data			♦				
			Decrease in illegal dumping	Survey- identify change in awareness/behavior levels	Previous year's data				♦❸			
Continue to coordinate with County Parks and Recreational Department and County Department of Transportation to identify and prioritize parks that need signs discouraging illegal dumping (American River Parkway "No Dumping" signs)	12.aiii., biii.		Identify new potential sites	Confirmation- identify new site locations	Previous year's data			♦				
			Document new sign installations	Tabulation- track number of signs installed.	Number of signs installed in previous years				♦			
			Decrease in illegal dumping	Survey- identify change in awareness/behavior levels	Survey				♦❸			
Financially support community outreach events	12.aiii.biii.		Document supported events	Tabulation- track number of events the program supported and promoted	Number of events attended in previous years	⇔	⇔	⇔	⇔	⇔	⇔	

⇔ Ongoing activity/task ♦ Deliverable or key milestone ❷ Effectiveness assessment activity (expected outcome level indicated)

Table 2.6-2

Regional Public Outreach Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard/Target	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other
Continue to promote educational programs. Examples include:	12.aiv., biv.											
Continue to support the Effie Yeaw Nature Program	12.aiv., biv.		Continue to financially support the Effie Yeaw Nature Center and increase awareness of stormwater issues among students	Tabulation-track number of students participating in program	Number of students participating in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
Provide watershed education grants	12.aiv., biv.		Document schools participating in grant program	Tabulation-track number of students involved in grant program	Number of students involved in previous years	⇔	⇔	⇔	⇔	⇔	⇔	
			Demonstrate an increase in student awareness levels using surveys/quizzes required as part of the final grant report	Grant reports-track number of students that gained a better understanding about stormwater pollution	Baseline data will be FY09/10	⇔	⇔	⇔❷	⇔❷	⇔❷	⇔❷	
Continue to financially support programs aimed to reduce the improper disposal of pet waste in local parks and trails (e.g., "Pups on the Parkway" program)	12.ai., aiii., 12.bi., biii.		Document installed stations that encourage proper pet waste disposal	Tabulation-track number of station installations	Previous year's data	⇔	⇔	⇔	⇔	⇔	⇔	
Support established watershed programs	63b, 12.ai.,iii.,bi. ,biii.		Represent County at meetings and public events	Tabulation - track number of meetings attended, outcomes	NA	⇔	⇔	⇔	⇔	⇔	⇔	
			Review and comment on work products to ensure mutual benefit	Confirmation	NA	⇔	⇔	⇔	⇔	⇔	⇔	
			Participate in technical advisory committees/work groups	Tabulation - track number of meetings attended, outcomes	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Work with RCDs and others to educate rural residents and promote stewardship/pollution prevention	63b		Identify opportunities to promote stewardship to rural residents	Confirmation - identify stewardship opportunities	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Assist in identifying and pursuing grant funding for watershed stewardship work	63b, 12.ai.,iii.,bi. ,biii.		Provide in-kind services support for grant pursuits	Tabulation - track in-kind service hours and dollar amount secured	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Sacramento City Agency-specific Activities												
Participate in area clean up events (e.g., Creek Week)	D.12.a.i, D.12.b.i					⇔◆	⇔	⇔	⇔	⇔	⇔	
Community Action Grant (CAG) Program	D.12.a.iii, D.12.b.iii					⇔	⇔	⇔	⇔	⇔	⇔	
Splash in the Class - classroom presentation program	D.12.a.iii, D.12.b.iii	✓	Increased level of awareness and stated behavior	T, S	Survey responses from classes that received presentation	⇔❸	⇔❸	⇔❸	⇔❸	⇔❸	⇔❸	
Manage Arcade Creek Prop 50 grant	63bviii, 12.ai.,iii.,bi. ,biii.					⇔	⇔	⇔	⇔	⇔	⇔	
Serve on Board of Trustees for Sacramento River Watershed Program (SRWP)	63bviii, 12.ai.,iii.,bi. ,biii.					⇔	⇔	⇔	⇔	⇔	⇔	
Assist in identifying and pursuing grant funding for watershed stewardship work	63bviii, 12.ai.,iii.,bi. ,biii.					⇔	⇔	⇔	⇔	⇔	⇔	
Track state legislation and regulatory changes and impacts to stormwater permit						⇔	⇔	⇔	⇔	⇔	⇔	
City of Citrus Heights Agency-specific Activities												

Refer to the Citrus Heights SQIP (Section 5.7) for additional outreach activities conducted by the City of Citrus Heights

⇔ Ongoing activity/task ◆ Deliverable or key milestone ❷ Effectiveness assessment activity (expected outcome level indicated)

Table 2.6-2

Regional Public Outreach Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key indicators	Performance Standard/Target	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other
City of Elk Grove Agency-specific Activities												
Refer to the Elk Grove SQIP (Section 6.7) for additional outreach activities conducted by the City of Elk Grove												
City of Folsom Agency-specific Activities												
Refer to the Folsom SQIP (Section 7.7) for additional outreach activities conducted by the City of Folsom												
City of Galt Agency-specific Activities												
Refer to the Galt SQIP (Section 8.7) for additional outreach activities conducted by the City of Galt												
City of Rancho Cordova Agency-specific Activities												
Refer to the Rancho Cordova SQIP (Section 9.7) for additional outreach activities conducted by the City of Rancho Cordova												

Notes:

1. Performance standards achieve effectiveness outcome level 1 unless otherwise indicated

2. Assessing effectiveness of performance standards may be limited pending availability of baseline data

⇔ Ongoing activity/task ◆ Deliverable or key milestone ② Effectiveness assessment activity (expected outcome level indicated)

2.7 Regional Commercial/Industrial Program

2.7.1 Introduction

The primary goal of the Regional Commercial/Industrial Program is to reduce the discharge of stormwater pollutants to the maximum extent practicable and effectively eliminate illegal non-stormwater discharges from Permittee-identified priority commercial and industrial facilities and businesses within the boundaries of the stormwater permit area.

As required by the Stormwater Permit, the Regional Commercial/Industrial Program works to address these conditions by conducting regular compliance inspections and related enforcement at priority commercial and industrial facilities, as well as through outreach targeted at business operators and their employees.

The Sacramento County Environmental Management Department (EMD) conducts triennial stormwater compliance inspections and associated enforcement on behalf of all the Permittees in order to make efficient use of Permittee resources, provide regional consistency, and to minimize impacts to businesses through consolidation of inspections with other environmental compliance programs.

The permit also requires that the permittees assess the effectiveness of the Regional Commercial/Industrial Program and use the findings to improve the program .

2.7.2 Pollutants Addressed

Permittee activities and requirements under the Regional Commercial/Industrial Program address a wide range of pollutants associated with commercial and industrial activities, including metals such as copper, lead, and mercury, three of the Program's target pollutants (see Section 2.5).

2.7.3 Strategy

The Regional Commercial/Industrial Program employs a variety of strategies to effectively meet the requirement of the Stormwater Permit. The primary activities conducted by this element include:

- Identification of priority industries and industrial pollutants
- Commercial and Industrial Stormwater Compliance Program (CISCP) implementation
- Educational outreach

A core strategy of the Regional Commercial/Industrial Program is to utilize knowledge gained through implementation of these activities to assess the Permittees' effectiveness. The results of such assessments are used to refine element activities. For example, inspection and enforcement-related data collected during the first two rounds of CISCP inspections (first round completed in June of 2007 and second round to be completed in June of 2010) and through Complaint-Based Stormwater Compliance Programs (CBSCP), described in Permittees' respective chapters of the SQIP, will be used to refine the priority industries subject to inspection under the CISCP and targeted outreach.

Another strategy is to efficiently use Permittee staff and resources and minimize inconvenience to regulated businesses by building upon existing environmental compliance programs. The County's Environmental Management Department (EMD) agreed to conduct triennial stormwater inspections on behalf of all the Permittees, in accordance with this strategy. Partnering with EMD has the following advantages:

- EMD has traditionally conducted environmental compliance inspections in the county, with trained staff, policies and procedures in place. Only modest training and enhancement was required to accommodate stormwater compliance inspections.

- EMD can recover costs for their activities without impacting the Permittees' limited funding sources, through their Fee Ordinance.
- Impacts to businesses are minimized by conducting stormwater compliance inspections by the same inspector and at the same time as other EMD compliance program inspections at many facilities. This also minimizes the fees charged to businesses.
- Using EMD to conduct stormwater compliance inspections on behalf of all the permittees results in a uniform county-wide program where businesses are regulated consistently and equitably.

2.7.4 Accomplishments to Date

The following highlights the major accomplishments of the Regional Commercial/Industrial Program since the start of the program in 2002:

- The Permittees adopted stormwater ordinances providing legal authority for regulating commercial businesses and industries with respect to stormwater pollution. The Permittees updated their ordinances twice during the 2002–07 permit term to clarify and enhance enforcement authority. EMD stormwater inspectors are authorized to enforce this ordinance county-wide; ensuring consistent treatment of regulated industries.
- The permittees developed a list of priority commercial businesses and industry categories subject to either routine inspections or targeted outreach and definitions for each. EMD refined the definitions of the priority industries based on field inspection observations.
- EMD developed and implements the program county-wide on behalf of the permittees. This program is innovative in its use of a pre-existing regulatory compliance program structure and trained inspection staff. EMD established a Fee Ordinance in 2003, and updated it in 2007, in order to recover costs from inspected facilities, minimizing impacts on the permittees' limited stormwater utility or general funds. A copy of the Fee Ordinance is included in Appendix 2E.
- EMD is authorized to conduct the CISCP on behalf of the permittees through a Memorandum of Understanding (MOU) executed by each permittee in 2003. Local stormwater ordinances were revised by the Permittees in 2004 to provide EMD with billing and enforcement authority county-wide.
- EMD completed the first three-year cycle of CISCP inspections (July 2004 - June 2007) at approximately 4700 businesses, on time.
- EMD conducted progressive enforcement to ensure that facilities included in the CISCP are in compliance with the Permittee stormwater ordinances.
- The permittees and EMD created industry-specific educational materials, including brochures, guidance manuals and Compliance Assistance Bulletins (CABs). These are distributed by direct mail, in training workshops, by way of the Business Environmental Resource Center (BERC), during inspections, and in conjunction with enforcement actions. CABs and other CISCP-related compliance assistance materials are also made available on EMD's web site (http://www.emd.saccounty.net/WP/EMDstormwater.htm). Several outreach brochures were translated into Spanish, Russian, and Chinese.
- The permittees and EMD developed and maintained a comprehensive database to track and document inspection and outreach efforts, for annual reporting and progressive enforcement purposes.

- EMD and the permittees coordinated with the Regional Water Board by referring over 110 Industrial General Permit non-filers , reporting significant violations, promptly investigating Regional Water Board referrals, and assisting with coordinated inspections and outreach to selected industries upon request.
- EMD received the *Outstanding Source Control/Programmatic BMP Implementation* award from the California Stormwater Quality Association (CASQA) in 2007 for implementation of the CISCP. The successful CISCP program is now being referred to by regulators and others in the State as a model for those developing similar programs.
- EMD received first place in the *EPA National Storm Water Excellence Awards in the Industrial Sub-Category* in 2008 for implementation of the CISCP. This award recognizes municipalities and industries that are demonstrating their commitment to protect and improve the quality of the nation's waters by implementing outstanding, innovative and cost-effective Storm Water control program and projects.
- The Permittees conducted two rounds of outreach to priority industries.

2.7.5 Regional Commercial/Industrial Activities

This section describes Regional Commercial/Industrial Program activities for the 2008–13 permit term, developed to comply with stormwater permit requirements.

Table 2.7-1, Regional Commercial/Industrial Activities Work Plan, located at the end of this section outlines the planned activities, associated performance standards and effectiveness assessment methods, as well as a five-year implementation schedule.

The following describes the major activities in more detail:

Legal Authority

The Permittees' stormwater ordinances provide legal authority for regulating commercial businesses and industries with respect to stormwater pollution. Within one year of Regional Water Board approval of the SQIP, the stormwater ordinances will be evaluated, and necessary amendments will be made to provide adequate authority to enforce requirements of the stormwater permit.

Priority Industry and Industrial Pollutant Identification

Assessing data collected through implementation of Regional Commercial/Industrial Program activities to focus Permittee resources on industries that pose the most significant threat to stormwater quality is key to demonstrating the effectiveness of this element. Effectiveness assessments will guide priority industry identification processes, including identification of business categories subject to stormwater compliance inspections and those subject to outreach.

The industries initially subject to stormwater compliance inspections and targeted outreach are listed in the sections below. These lists will be refined during this permit term based on results of the effectiveness assessments.

Priority industrial pollutants will be identified by taking into consideration monitoring-related benchmark exceedances for facilities covered under the State Industrial General Permit. Monitoring results received by the Regional Water Board from facilities covered by the Industrial General Permit will be evaluated and compiled into table form by the Regional Water Board, after which the Regional Water Board will transmit the table of compiled data to the Permittees. The data included in the table provided by the Regional Water Board shall be limited to the boundaries of the stormwater permit area and exceedances shall be categorized as either "high", "medium" or "low" priority. The table will be evaluated to identify overlaps between benchmark exceedances and the pollutants identified in the Target Pollutant Program described in Section 2.5. Overlapping constituents will be considered priority industrial pollutants. Additional priority industrial pollutants may be identified by the Permittees using alternative criteria. The Permittees will update the list of priority industrial pollutants within three months of receipt of compiled State Industrial General Permit benchmark exceedance tables from the Regional Water Board, but not more frequently than annually. Outreach material will be distributed to targeted businesses having problems addressing the priority industrial pollutants. See Outreach below for more information.

Commercial and Industrial Stormwater Compliance Program (CISCP)

EMD will continue to implement the CISCP on behalf of all Permittees. This program is described in the following sections.

CISCP Legal Authority

EMD's Fee Ordinance authorizes EMD to recover costs for inspection, enforcement and outreach activities by assessing/collecting fees from facilities inspected. The Fee Ordinance was last updated in 2007 and will be maintained during the 2008–13 permit term to ensure that it provides EMD with adequate authority and/or funding.

CISCP Inspections

EMD will continue to conduct triennial inspections at identified priority commercial and industrial facilities. The first cycle of inspections was completed in June 2007 and the second cycle will be completed in June 2010. The following priority commercial and industrial facilities will be inspected:

- Facilities with coverage under the State Industrial General Permit
- Auto body shops
- Auto repair shops
- Auto dealers
- Equipment rental facilities
- Kennels
- Nurseries
- Retail gasoline outlets (i.e., gas stations)
- Restaurants

EMD's Fee Ordinance (Appendix 2E) includes definitions for these commercial and industrial categories.

The permittees may refine this list as they evaluate inspection and enforcement data to better identify significant threats to stormwater quality. At a minimum, the list will be evaluated and revised by the end of the permit term.

EMD may de-list certain facilities found during inspection(s) to have no exposure of pollutants from their commercial/industrial activities. EMD will report these "de-listed" businesses in the annual reports and continue to track such facilities in its database.

EMD inspectors will continue to maintain and use standardized checklists during inspections, helping to ensure county-wide consistency and maximizing efficiency.

Stormwater compliance inspections conducted at businesses covered under the State Industrial General Permit will verify that each facility:

- Has a current Waste Discharge Identification (WDID) number
- Has an up to date Stormwater Pollution Prevention Plan (SWPPP) available on-site
- Is effectively implementing BMPs in compliance with the Permittees' stormwater ordinances

EMD inspectors will distribute educational materials to the operators of these facilities during inspections. EMD will also refer suspected Industrial General Permit non-filers to the Regional Water Board, as described later in this section.

CISCP Enforcement

EMD will continue to conduct progressive enforcement to obtain compliance in accordance with Permittees' stormwater ordinances and will maintain a progressive enforcement policy to complement the enforcement-related procedures contained therein. The Permittees' general approach is to take administrative enforcement actions in cases that do not involve criminal behavior, indicate patterns of activity that extend beyond Sacramento County, or require significant infrastructure modification to obtain compliance. All other cases will be referred to either District Attorneys or the State Attorney General's Office. In addition, significant violations will be reported to the Regional Water Board as described in more detail later in this section.

CISCP Outreach

EMD will continue to develop and refine Compliance Assistance Bulletins (CABs) for distribution to businesses during inspections, in training workshops, through BERC, and on the EMD web site.

EMD will coordinate with others, such as BERC and the Permittees, to assist with stormwater compliance training workshops for regulated industries.

EMD will provide annual trainings to inspectors, during which quizzes will be administered to measure inspectors' level of awareness.

CISCP Data Management

EMD will continue to manage and track data on inspections and enforcement using a computer-based system. Permittee stormwater staff will have access to the database for programmatic evaluation and reporting purposes.

At a minimum, the following information will continue to be tracked for each regulated facility:

- Name and address of owner and operator
- Coverage under Industrial General Permit, or other individual or general NPDES permits
- Narrative description and SIC code that best reflects the commercial or industrial activities at, and principal products of, each facility or business.

The database will be maintained to provide tracking of CISCP activities throughout the permit term.

CISCP Interagency Coordination

EMD will continue to coordinate and cooperate with the Regional Water Board in the following ways:

- All significant violations and suspected Industrial General Permit non-filers will be referred to the Regional Water Board in writing or by electronic mail within 30 days of discovery. A tracking spreadsheet will be updated and submitted to the Regional Water Board monthly by EMD that will include any new referrals of non-filers. Within two weeks of receipt of EMD's monthly submittal, the Regional Water Board will update information in the tracking spreadsheet related to status of coverage, enforcement actions, etc. The Regional Water Board will also copy EMD and the permittees on all enforcement actions, and correspondence related to permit status changes or exemptions, such as Notices of Termination (NOTs), Notices of Non-Applicability (NONAs), and No Exposure Certifications (NECs), for all facilities listed. Appendix 2F includes a flowchart of the responsibilities of the Permittees, EMD and the Regional Water Board related to referring and processing non-filers.
- EMD will initiate investigation of complaints referred by the Regional Water Board within three business days of receipt associated with industries included in the CISCP.
- Upon request, EMD will support Regional Water Board enforcement actions targeting facilities included in the CISCP. For example, EMD can provide facility and historical information, and EMD staff, when available and appropriate, will participate in joint inspections with the Regional Water Board.

Permittee Evaluations

CISCP Enforcement Data Evaluation

Enforcement-related data will be evaluated to assess the program effectiveness and to refine the list of priority industries subject to inspection and targeted outreach.

Priority Industrial Pollutant Industrial General Permit Benchmark Exceedance Evaluation

Within three months of receipt of compiled State Industrial General Permit benchmark exceedances tables from the Regional Water Board, but not more frequently than annually, the Permittees will update the list of State Industrial General Permit facilities requiring distribution of outreach materials for those facilities with significant priority industrial pollutant benchmark exceedances. Significant exceedances are defined as those classified as priority industrial pollutants that fall into the Regional Water Board's "high" and "medium" priority exceedance criteria.

Outreach

Permittees will continue to conduct outreach to the following priority industries:

- Automotive washing and detailing businesses
- Carpet cleaning businesses
- Commercial pesticide applicators
- Concrete contractors
- Concrete cutting contractors and businesses
- General building contractors
- Landscape installation contractors and maintenance businesses
- Painting contractors
- Portable toilet rental businesses
- Pressure washing businesses
- Street sweeping businesses
- Swimming pool contractors
- Swimming pool maintenance businesses

Businesses included in priority industries subject to outreach are considered potential temporary or intermittent sources of unauthorized non-stormwater discharges and/or stormwater pollution. Most of the businesses are mobile operations without a single base of operation, and therefore are difficult to regulate.

The Permittees will conduct outreach to priority industries twice during the five-year term of the stormwater permit. The objectives of the outreach are to increase awareness of stormwater pollution and relevant regulations, educate business owners and operators about BMPs for addressing pollution, and encourage environmental stewardship.

BERC will continue to manage the outreach database and coordinate direct mailing of educational materials to businesses on behalf of the permittees. As with past years, it is anticipated that two types of outreach materials will be distributed:

- *General brochures and fact sheets*: These publications detail what types of activities may result in illicit discharges to the storm drain system as well as acceptable means of performing typical activities. The brochure entitled "Only Rain Down the Storm Drain" is an example of this type of outreach material.
- *Industry-specific brochures and fact sheets*: These publications provide information on source and treatment control BMPs targeted to specific industries. Source controls prevent the pollutant(s) from contacting site runoff or stormwater, and treatment controls remove pollutant(s) already contained in the runoff. The booklet entitled *BMPs for Pressure Washing and Surface Cleaning* is an example of this type of outreach material.

In addition to direct mail, educational brochures and other information will be distributed at displays at Permittee public counters, by inspectors, through trade associations and industry suppliers, and during workshops and other events.

The Permittees will continue to partner with BERC and other organizations to provide industry-specific BMP workshops for businesses and special districts (e.g. fire and water districts) upon request and as needs are identified.

Priority industrial pollutant-specific outreach materials will be distributed within six months of receipt of compiled State Industrial General Permit benchmark exceedance tables from the Regional Water Board, but not more frequently than annually.

2.7.6 Effectiveness Assessment

The Permittees' general approach to assessing the effectiveness of its stormwater programs is described in Section 2.3, Program Effectiveness. This section specifically describes the assessment activities and associated methods for evaluating the effectiveness of the Regional Commercial/Industrial Program.

Activities from the last permit term were evaluated to identify programmatic changes to demonstrate effectiveness, as well as baseline data for the 2008-2013 permit term activities.

Table 2.7-1, Regional Commercial/Industrial Activities Work Plan, presents planned activities for the program. Each activity or task has an anticipated effectiveness outcome level of between one and four, as described in Section 2.3. An outcome level of one is assumed for each activity or task, unless otherwise indicated. Table 2.7-1 shows the years in which focused assessments will be conducted to determine if higher outcome levels have been attained.

Improvements to the Regional Commercial/Industrial Program will be identified by evaluating inspection, enforcement and outreach-related data. The Partnership selected key indicators that demonstrate progress towards meeting program goals and are specific, measurable, and attainable. Table 2.7-1 identifies key indicators used to assess the effectiveness of individual permittee programs and those of the partnership as a whole in the Long-Term Effectiveness Assessment (LTEA) required by the stormwater permit.

Assessments may result in recommended changes to the list of priority commercial/industrial facility categories included in the CISCP, targeted outreach, or other mid-course program refinements.

2.7.7 Relationship to Other Program Elements

The Regional Commercial/Industrial Program relates to other Permittee program elements as follows:

Municipal Operations Element

Many Permittee-owned facilities such as corporation yards, airports, and waste management facilities, are covered under the State Industrial General Permit. Therefore, many of the brochures and BMP guidance materials created through the Regional Commercial/Industrial Program for private industries can also be used to educate and inform managers and staff who maintain and operate Permittee facilities. The Municipal Operations and Regional Commercial/Industrial Program staff work together to provide annual refresher stormwater BMP and awareness training for Permittee employees.

Illicit Discharge Element

There are many businesses addressed by the Regional Commercial/Industrial Program that provide home-related services to residential customers. Examples include carpet cleaning companies, and landscape and concrete contractors. Activities by such businesses could result in illicit discharges to the storm drain system. Commercial/Industrial and Permittee Illicit Discharge Element staff work together to conduct inspections and enforcement in response to complaints and to promote pollution prevention awareness. Common problems include erosion of landscape material stockpiles in public streets and gutters, discharge of concrete and paint wastes into the storm drain and washing dirt and debris from paved surfaces into the drain.

Public Outreach Element

Regional Commercial/Industrial Program staff coordinate with experienced public outreach professionals to assist with developing and maintaining high-quality educational and informational materials for targeted industries. Materials are distributed by inspectors during facility inspections, by direct mail (e.g., with enforcement actions or through targeted outreach), during training workshops, at public events and at Permittee permit counters. Educational materials are also distributed through BERC. The Permittees will translate brochures and other guidance materials for industries identified as commonly employing non-English-speaking workers.

2.7.8 Coordination between the Permittees and Other Groups

Successful implementation of the Regional Commercial/Industrial Program requires close coordination between the Permittees, EMD, and other entities that regulate or provide assistance to local industries, as described below.

Permittee Coordination

Permittees coordinate with one another on a number of efforts related to the Regional Commercial/Industrial Program, including:

- Revising stormwater ordinances to comply with the stormwater permit
- Identifying priority industries to include in stormwater compliance inspections and targeted outreach activities
- Indentifying priority industrial pollutants and State Industrial General Permit businesses with significant benchmark exceedances
- Providing guidance to EMD on implementation of the CISCP to provide regional consistency

- Conducting coordinated enforcement and/or outreach to individual businesses with multi-jurisdiction locations or services, or entire business categories to address stormwater quality on a regional basis
- Preparing and distributing industry and priority industrial pollutant-specific outreach

Local Sewer Providers

Local sewer providers review and inspect the operations of industrial dischargers to area collection systems. They also work with businesses such as dry cleaners, photo processors and radiator repair shops to help them understand local sewer use regulations and wastewater pollution prevention options. Local sewer providers are responsible for ensuring adequate pre-treatment prior to discharging a waste stream to the sanitary sewer. Lastly, some local sewer providers administer permits that allow short-term discharges to the sanitary sewer. Local sewer providers are also responsible for issuing permits for long-term discharges to their sewer systems. Permittee and EMD staff refer businesses that want to discharge to the sanitary sewer to local sewer providers for guidance.

Coordination with local sewer providers helps to keep commercial and industrial wastes out of the storm drain system.

County Environmental Management Department (EMD)

EMD, under agreement with the permittees, conducts routine stormwater compliance inspections and complaint response at priority commercial and industrial facilities listed in the stormwater permit. Two divisions within EMD participate in the implementation of the CISCP, as follows:

- The Environmental Compliance Division (ECD) contains the Stormwater Compliance Section (SCS), which leads the implementation of the county-wide CISCP. In addition to providing support and training to hazardous materials and environmental health division inspectors (described below), SCS inspectors conduct stormwater compliance inspections at many of the commercial and industrial facilities in the program. They also conduct complaint response and follow-up stormwater compliance re-inspections at Hazmat and Environmental Health Division (EHD) facilities. SCS maintains a database and generates monthly and annual reports to document activities and inform the permittees and Regional Water Board about non-compliant industries. ECD also implements the septic program, as well as other water-related programs.
- The Environmental Compliance Division's Hazardous Materials program (Hazmat) is the State designated Certified Unified Program Agency (CUPA) for Sacramento County and inspects commercial and industrial facilities that generate hazardous waste, store or use hazardous materials, or store hazardous materials (i.e. fuel) in underground storage tanks (UST) in quantities above statutory thresholds. Examples of businesses inspected for stormwater compliance by Hazmat include retail gasoline outlets (RGOs). EHD enforces provisions of the California Health and Safety Code at restaurants and public swimming pools, and other facilities. EHD conducts stormwater compliance inspections at restaurants and sends data and/or refers problems to SCS for follow-up. RGOs and restaurants are one of nine categories of businesses regulated by EMD for stormwater compliance.

The Permittees coordinate with EMD in many areas, including: providing guidance on implementation of the CISCP, partnering on outreach events, and conducting coordinated enforcement to address facilities comprehensively (since in many situations EMD may regulate a specific tenant in a complex but not the owner of the complex or other businesses within the complex).

County Business Environmental Resource Center (BERC)

BERC's main mission is to provide confidential environmental compliance assistance and guidance to local businesses in the county upon request. Permittee stormwater staff work with BERC to ensure that accurate stormwater pollution prevention information is provided to local businesses by BERC. Assistance is provided by BERC to develop and distribute guidance materials for selected industries and to work with Industrial General Permit industries to ensure they have ample opportunity to understand and comply with the regulations. BERC conducts a variety of commercial and industrial training workshops each year to inform the regulated community about compliance with local and state stormwater laws, at which Permittee staff are often presenters. BERC also developed and maintains a database of businesses in priority industries subject to targeted outreach. The Permittees contribute funding to BERC each year.

2.7.9 Coordination with Other Agencies and Groups

Permittee stormwater staff coordinates with various outside agencies and groups that have regulatory and/or economic interests in industries in Sacramento County. This coordination allows for information sharing and ensures that a uniform, consistent message about stormwater pollution prevention is distributed to the regulated community.

- ***Regional Water Board*** — The Permittees coordinate with the Regional Water Board on issues related to Industrial General Permitted industries as well as other businesses. The Permittees initiate investigations of all stormwater problems at businesses referred by the Regional Water Board. The Permittees inform the Regional Water Board of all discovered significant violations and of potential General Permit non-filers. The Permittees also support Regional Water Board actions upon request, by allocating staff, providing documentation of observed problems, etc.
- ***Trade and Business Associations*** — The Permittees cooperates with commercial and industrial businesses through associations and organizations. These associations are provided with outreach materials, information on Industrial General Permit requirements and information on BERC's compliance assistance program.

Table 2.7-1

Regional Commercial/Industrial Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key Indicators	Performance Standard (Target)	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other
Legal Authority												
Evaluate/amend stormwater ordinances	4.f, 5, 9.a.i		Revised stormwater ordinances	Confirmation - report revisions in AR	NA	⇔	⇔	⇔◆	⇔	⇔	⇔	one year from SQIP approval
Priority Industry and Industrial Pollutant Identification												
Update priority industry inspection list based on evaluation of enforcement-related data	9.a.ii		Updated list of priority industries for inspection	Confirmation - report revisions in AR	NA					③		Before ROWD submittal
Update priority industry outreach list C29 based on evaluation of enforcement-related data	9.a.ii		Updated list of priority industries for outreach	Confirmation - report revisions in AR	NA					③		Before ROWD submittal
Develop and update list of priority industrial pollutants considering overlaps between benchmark exceedances (compiled data provided by Regional Water Board) and Target Pollutant constituents	9.b.iii		Updated list of priority pollutants at a frequency of no greater than annually and within 3 months of receipt of compiled data tables from the Regional Water Board	Confirmation - report list and revisions in AR	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Commercial and Industrial Stormwater Compliance Program (CISCP) – EMD												
Maintain fee ordinance	9.a.iii-viii		Maintained fee ordinance	Confirmation – report program/ordinance revisions in AR	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Maintain enforcement policy	9.a.iii-viii		Maintained enforcement policy	Confirmation - report formally adopted policy and revisions in AR	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Inspect priority industries once every 3 years	9.a.iii-viii		100% of priority industries inspected during 3-yr cycle	Confirmation - report on completion of next cycle, 2007-10	NA	⇔	⇔◆	⇔	⇔	⇔◆	⇔	
Track violations during 3 year cycle	9.a.iii-viii	✓	Decrease in violations observed from one 3-yr cycle to the next	Tabulation – track number of violations observed and inspections conducted	No. of violations per facility inspection observed during previous inspection cycle					③		Before ROWD submittal
Track follow-up inspections during 3 year cycle	9.a.iii-viii	✓	Decrease in follow-up inspections required from one 3-yr cycle to the next	Tabulation – track the percentage of follow-up inspections conducted	Percentage of follow-up inspections in previous inspection cycle					③		Before ROWD submittal
Track number of businesses with significant priority industrial pollutant exceedances using Regional Water Board compiled data	9.a.iii-viii		Decrease in Industrial General Permit facilities with significant priority industrial pollutant exceedances from one permit cycle to the next	Tabulation – track number of facilities by priority pollutant	Percentage of Industrial General Permit facilities with significant priority pollutant exceedances in previous inspection cycle					③		Before ROWD submittal
De-list facilities with no exposure of pollutants to stormwater	9.a.iii-viii		Document faculties de-listed and no longer requiring inspection	Tabulation – track number of industries de-listed due to no exposure	NA	⇔	⇔	⇔	⇔	⇔	⇔	

⇔ Ongoing activity/task ◆ Deliverable or key milestone ② Effectiveness assessment activity (expected outcome level indicated)

Table 2.7-1

Regional Commercial/Industrial Activities Work Plan (2008-2013)

Activity/Task	Permit Ref	Key Indicators	Performance Standard (Target)	Assessment Method	Baseline Data	Schedule FY 08/09	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	Due Date/ Status/Other
Conduct enforcement (incl. warnings, NOVs, Cease and Desist Orders, ACPs, and Cost Recoveries)	9.a.iii-viii	✓	Decrease in enforcement actions from one 3-yr cycle to the next	Tabulation – track number of enforcement actions issued and inspections conducted	No. of enforcement actions per facility inspection observed during previous inspection cycle					③		Before ROWD submittal
Conduct workshops, upon request and as needs are identified, for the regulated community	9.a.iii-viii		Document workshops conducted	Tabulation - track number workshops held, number people reached in AR	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Provide annual training to CISCP inspectors	9.a.iii-viii		Document training events	Tabulation - track number CISCP inspectors reached in AR	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Conduct post-training quizzes of inspectors	9.a.iii-viii		80% minimum average quiz score	Tabulation – track quiz results	NA	②	②	②	②	②	②	
CISCP database - track facility inventory, inspections, enforcement and outreach materials distributed (facilities included to be based on list of priority industries)	9.a.iii-viii		Database updated annually	Confirmation - include updated database in AR	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Refer significant violations to the Regional Water Board	9.a.iii-viii		Document significant violations reported to Regional Water Board	Tabulation – Track number of significant violations reported	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Refer potential Industrial General Permit non-filers to the Regional Water Board	9.a.iii-viii		Document potential non-filers referred to Regional Water Board	Tabulation – Track number of non-filers referred	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Track NOIs filed for potential non-filers referred to the Regional Water Board	9.a.iii-viii		Increase in percentage of non-filers referred to Regional Water Board filing NOIs	Tabulation – Track percentage of non-filers referred that gained coverage	Percentage of non-filers referred that sought coverage during previous inspection cycle					③		Before ROWD submittal
Investigate Regional Water Board referrals within 3 working days of receipt of referral	9.a.iii-viii		Document Regional Water Board referrals investigated within specified timeframe	Tabulation – Track number of Regional Water Board referrals investigated	NA	⇔	⇔	⇔	⇔	⇔	⇔	
Provide enforcement support to Regional Water Board related to facilities in the CISCP inventory , including providing facility and historical information, and staff for joint inspections when available	9.a.iii-viii		Document support efforts	Tabulation – Track number of cases where support was provided to the Regional Water Board	NA	⇔	⇔	⇔	⇔	⇔	⇔	

⇔ Ongoing activity/task ◆ Deliverable or key milestone ② Effectiveness assessment activity (expected outcome level indicated)